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Mariemont—A New Town

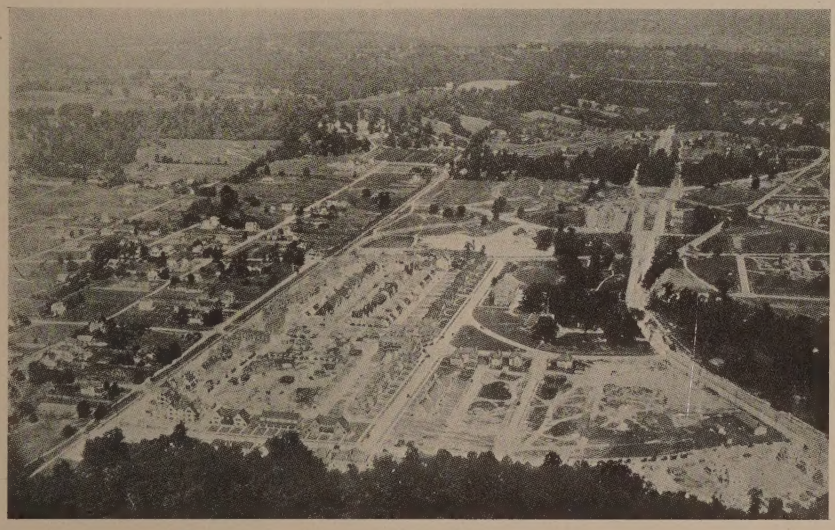
A Complete Residential Village Near Cincinnati, Ohio

Planned by John Nolen and Philip W. Foster, Associate, Town-Planners

Twenty-five Architectural Firms—Nationally Known—Participate in Designs

WE think of the art of town-planning as a new thing—a newcomer into the family of the arts. And it is new in a sense, for it is only within rather recent times that it has taken a recognized place in our national consciousness.

Yet way back in the earliest days of the settlement of this continent, men had vision and imagination and ability enough to plan a town. Williamsburg, Va., one of our earliest settlements, was planned on paper before a heterogeneous welter of individual buildings could forestall any efforts toward design. The designers of Williamsburg, among whom Governor Nicholson appears to have been chief, placed the Capitol building at one end of the main axis and William and Mary College at the opposite end. They laid down the main streets, in 1698, in the form of a cipher incorporating the initials of their sovereigns. And not only was the town of Williamsburg thus planned; it was built rather closely in accordance with the original design—the first piece of town-planning in America. Major L'Enfant's plan for Washington, which we have come to regard as the Magna Charta of civic design, is a comparatively modern production compared with those early efforts of the colonists between the York and the James.



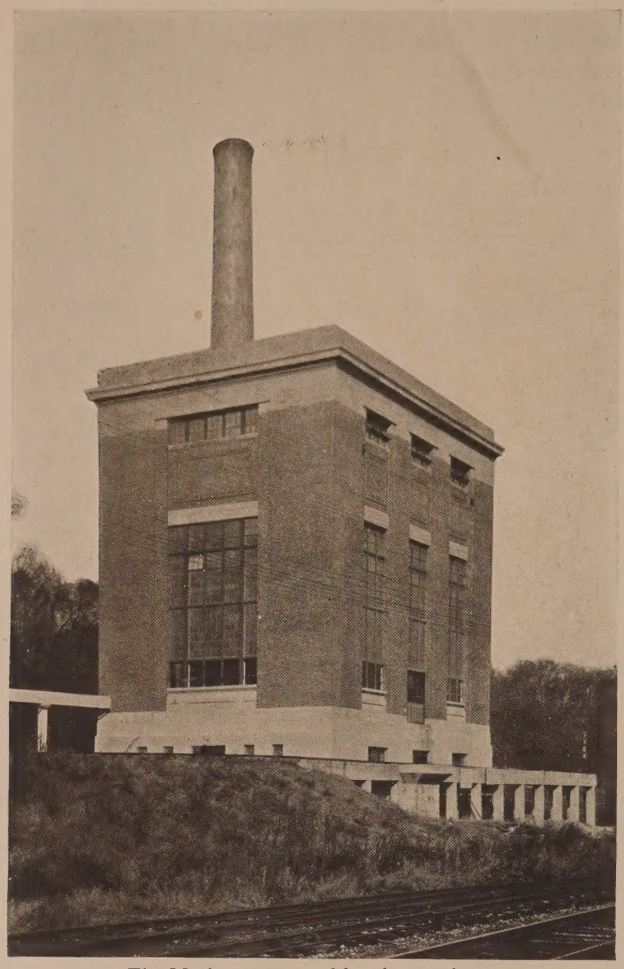
Aeroplane view of Mariemont and surrounding country.

The curious fact about town-planning, however, is not that it had an early origin in the settlement of America, but rather that so little has been heard of it from that day to this. The benefits of a comprehensive design for any community, one would think so obvious as to bring about its wide-spread employment. Any one who has once visited Washington would need no further argument, it would seem, as to the wisdom of planning a city or a town with no less care and skill in design than we utilize in creating the buildings that go to make it.

Of course, there are several very potent factors tending to prevent the universal application of the community-planning idea. Perhaps the chief among these is the unfortunate fact that communities just naturally grow up. We do not, ordinarily, look over a promising site in the raw and say: "Here we shall build a city." The city will have anticipated our coming and have started building itself without benefit of clergy. The clean sheet of paper on which we may draw our beautiful plan rarely exists. In its place, most frequently, we are given a sheet filled with meaningless lines that have already been set down by Time—a particularly crude designer. Out of this record of things as they are we must construct a vision of what might still be. Before the creation of things new and in order there must come the destruction of things old and in disorder. And in the awesome prospect of what must be the cost of such a double task, too many city plans go glimmering.

Residential Areas

When we come to the branch of city-planning that provides for residential areas, the outlook is distinctly brighter. The great factor of expansion comes to our aid. A community is constantly reaching out for more land; it must reach beyond what it has probably defiled and occupy more of what is comparatively clean and unspoiled. And here is the opportunity for comprehensive design. That opportunity has been seized in notable instances; it is likely to be seized more frequently as the slow task of public enlightenment progresses. Every example of a community of homes that has a dominating element of design in it is a powerful stimulus to more of its kind.



The Mariemont central heating station.
Designed by Fay, Spofford & Thorndike, Boston, Mass., Consulting Engineers.

A large, modern steam plant furnishes steam for heating purposes to the houses and public buildings of the town. This plant will reduce the smoke nuisance to a minimum through its modern smokeless boilers. The handling of dirty coal and ashes also is eliminated in the houses.

In every densely populated area there is a large proportion of its inhabitants (authorities say 60 per cent) who are making efforts to escape from the living conditions in their immediate surroundings or from contacts with others who weakly accept such conditions. With but few exceptions they drift about, moving into homes that have but recently been vacated or discarded by tenants of the next higher social class. The houses are unsuited to their use and cannot economically be adapted to their standards of living.

The Faults of Most Housing Developments

For the past ten years we have listened to the discussions at the Housing Conferences. Mr. Bleecker Marquette, of Cincinnati, voiced the problems of his city, and we learned from him that serious consideration was being given to the subject. Meanwhile, housing developments have been carried out all over the country and under every conceivable programme and management, resulting in two general solutions that are equally distasteful to American spirit: First, real-estate exploitation; second, benevolent or industrial paternalism.

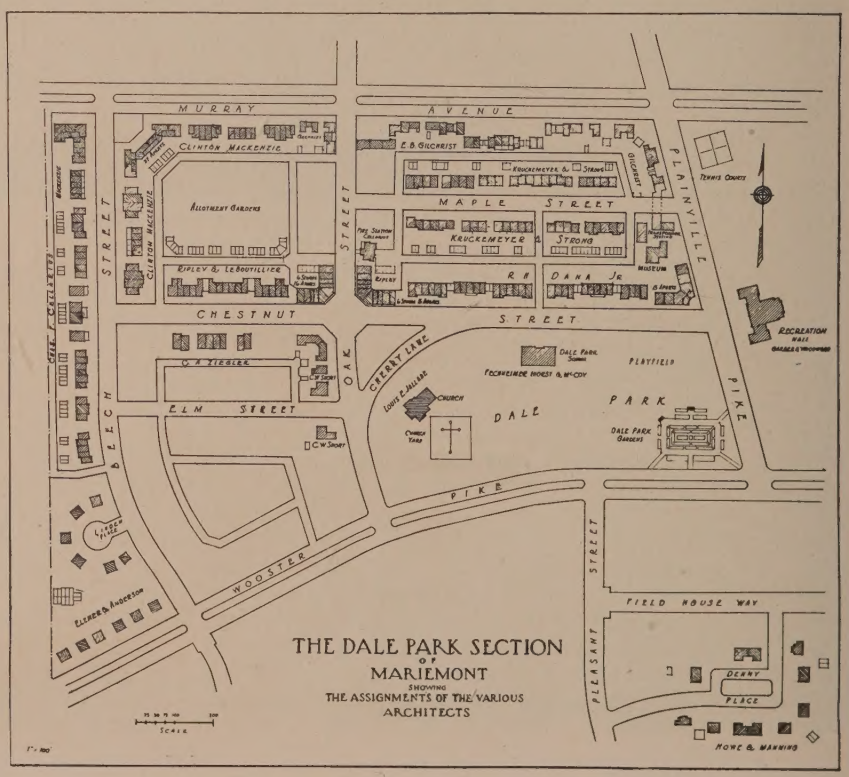
In the first case, commercial profit has precluded the vital interests of the renter or buyer. The buildings were erected for quick sales and very little attention was paid to the structural materials and details. Civic improvements were carried out superficially, if at all, and, long before the costs were covered, have fallen in disrepair.

In the second case, Americans do not wax enthusiastic over towns created especially to tie a man and his family to his job, nor to the special premiums bestowed in the way of public benefits, since usually he is not allowed to participate in their control and management.

Housing shortage, so far as the wage-earner is concerned, has not been materially relieved by the feverish building activity noted everywhere in recent years. During the war, the shortage had been very acute, for few homes were built for the people except "war emergency houses," many of which were temporary abodes. In 1920 the accumulated shortage of houses in the United States was put at over a million and a half homes; in Cincinnati it was estimated at four thousand. Of the many houses built since the war only 10 per cent were for the wage-earner. The builder finds no money in it. The speculator and the "profiteer," who simply remodelled old properties, have taken advantage of this condition, and thus far it has not materially changed.

Municipal and government housing schemes in this country have seen their day. The cost is too staggering.

The only solution of the housing shortage in America is cheaper quantity production and a limitation of the excessive profits being demanded by builders. And it must be a true business enterprise that would assure the full independence of the dweller, a fair return to the investor.

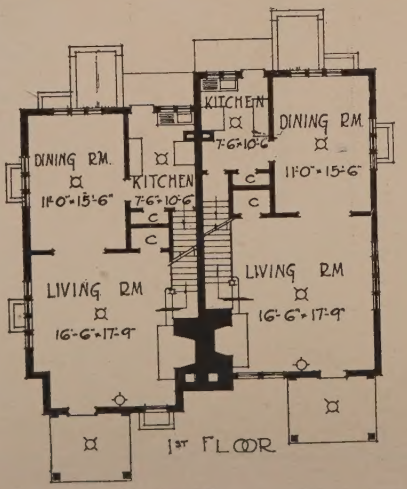


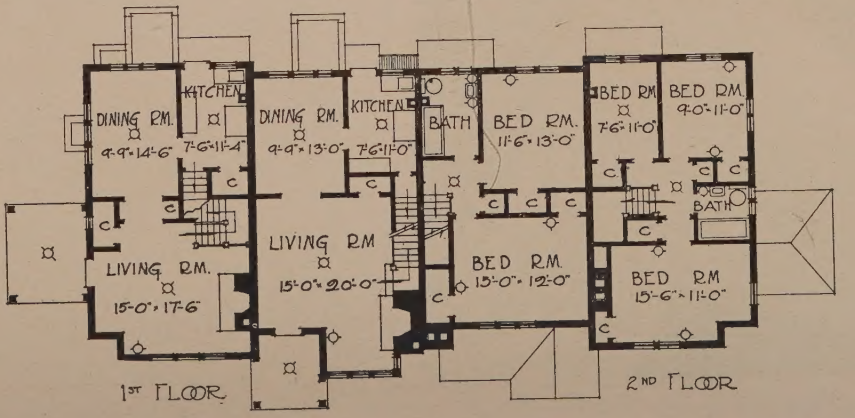
The exterior.

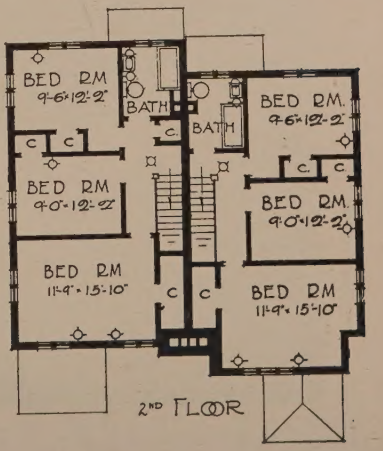
The interior.

Louis E. Jallade, Architect.

MARIEMONT COMMUNITY CHURCH, MARIEMONT, OHIO.







A group on Chestnut Street, looking out over the allotment gardens in the rear.

Carl A. Ziegler, Architect.

MARIEMONT, OHIO.

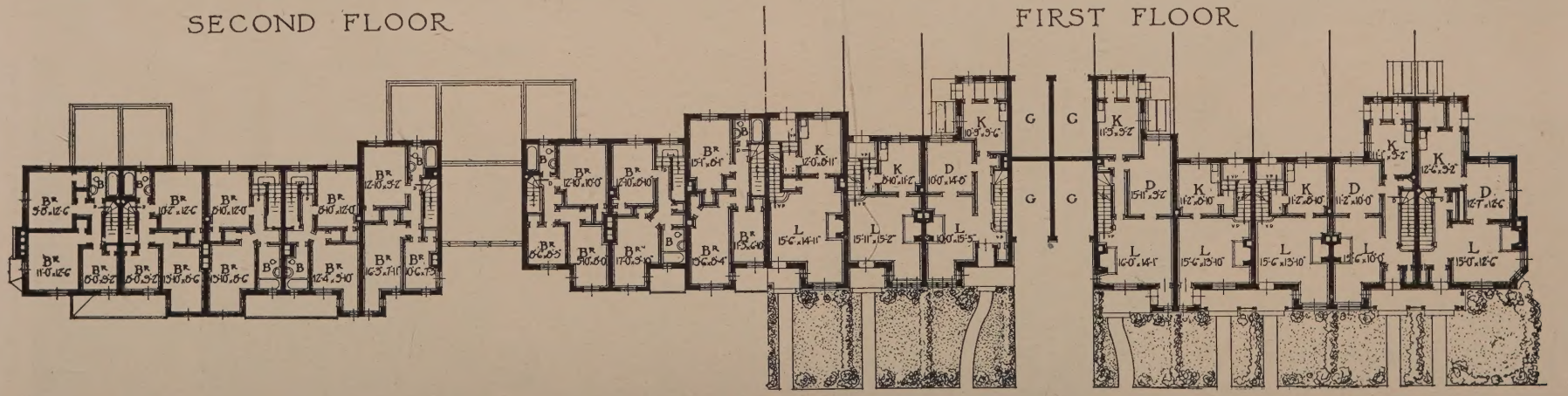
Dale Park Centre group. Apartments and shops facing the village green.

Ripley group houses on Chestnut Street, designed in harmony with apartments and shops. Ripley & Le Boutillier, Architects.

MARIEMONT, OHIO.

Rear of Dale Park Centre apartments and shops, showing treatment of fire-escapes and garages.

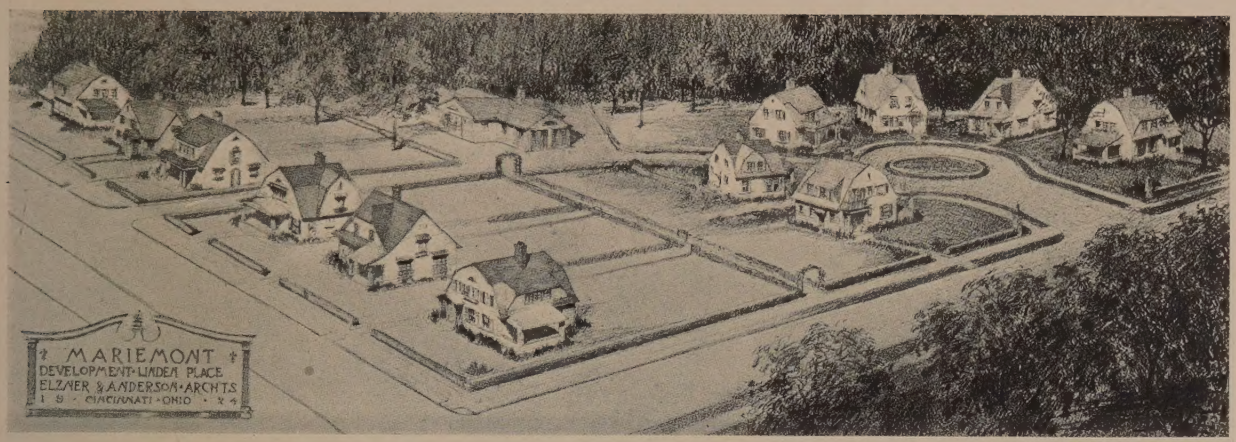
Rear of Ripley group houses, showing garages.



Plans of Ripley group houses.

Ripley & Le Boutillier, Architects.

MARIEMONT, OHIO.



Little frame cottages in Linden Place, at the entrance of the State highway leading from Cincinnati. Grouped around a grassy circle

Cottage "A." Elzner & Anderson, Architects.

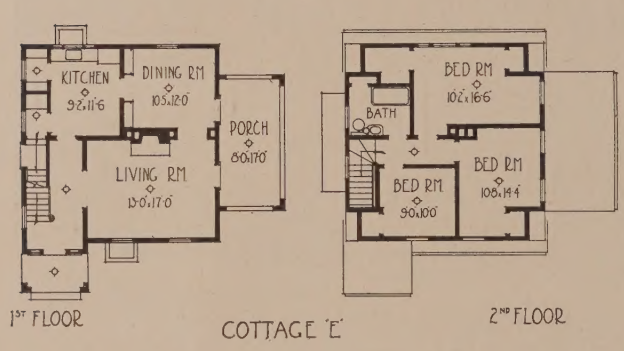
Mariemont, an Adventure in Humanitarianism

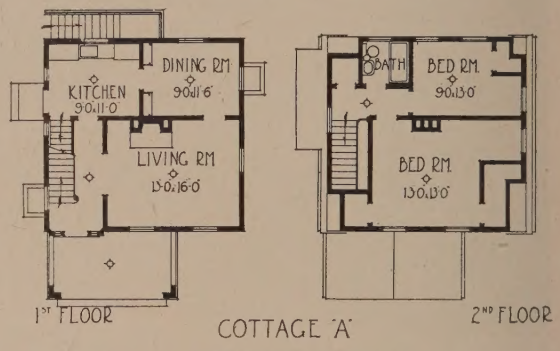
The projector and sponsor for the entire great adventure of Mariemont is Mrs. Mary G. Emery, who holds all of the capital stock. Her personal representative is Mr. Charles J. Livingood. They are both lifelong residents of Cincinnati, who have an active interest in the human side of their city and are making this active practical contribution to humanity's highest aim, "a better place to live in." Mariemont was in the minds of its projectors long before there was any housing shortage, and to-day is not merely an undertaking to build more houses. It is a real-estate development, pure and simple, on normal American lines, except that there is a limit put on the profit to the owner, to give force to the idea that the maximum of return should not be extracted from the man who earnestly desires a home for his own use. In an incidental way, it is to furnish to Cincinnati a more pleasant place to live than in the crowded downtown districts.

To accomplish this speedily, the first "homes," built to show the type and character desired in certain neighborhoods in Mariemont, will be rented only, but eventually, following the building by others and the full development of the business centre to insure permanency, all the properties will be disposed of and the operation of Mariemont repeated elsewhere. There is no obligation on the part of tenant or owner to take stock in the enterprise, however. The company is amply financed, and has been incorporated to do everything necessary to make the enterprise a success.

Mariemont is thus intended to be a study field for indi-

Cottage "E."





5 and 6-room cottages

Linden Place cottages. Elzner & Anderson, Architects.

vidual home builders and the projectors of towns and subdivisions near great cities, not only by its plan of procedure and city-planning principles, but in illustration of the advantage of modern methods in building, cost-saving, and the value of beauty both in placing and designing a home. Careful accounts have been kept, which will enable developers to foresee with certainty what they are letting themselves in for; the cost of street improvements of varied character has been ascertained; the advantages of parks and "breathing spots," isles of safety, and floral gardens demonstrated.

The Site and the Plan

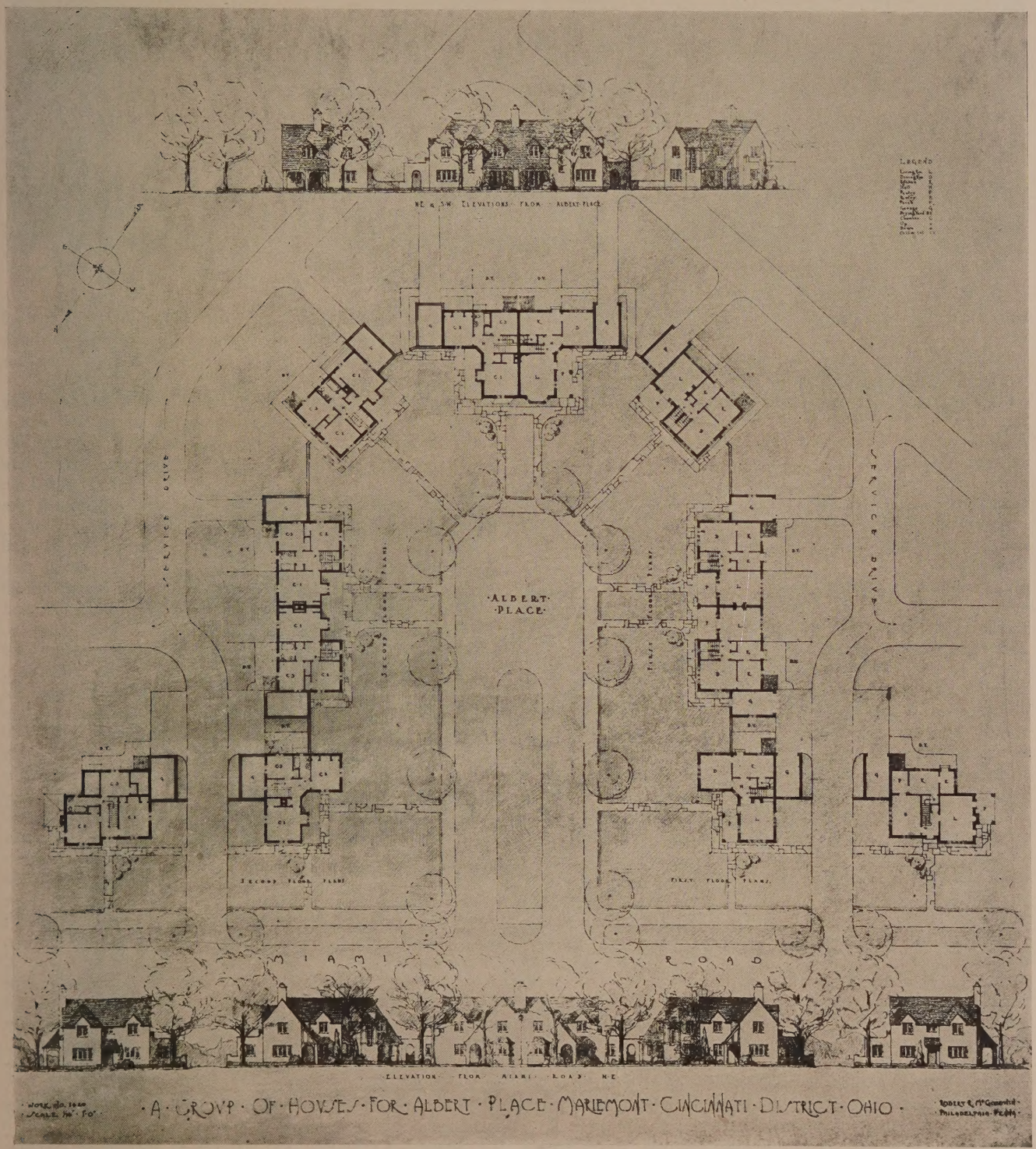
After years of study of housing in its various phases and demonstrations in this country and abroad, a site was selected and gradually acquired. Mariemont, a residential village, was incorporated under the laws of Ohio. Its government is based upon a plan prepared after suggestions by the Rockefeller Bureau of Municipal Research.

The town plan was made by the well-known firm, John Nolen, Philip W. Foster, associate, town-planners, of Cambridge, Mass., who quickly caught the ideas and aims of its projectors and who have designed what is said to be the most comprehensive scheme ever attempted for creating a "garden city" suburb. It is an ideal interpretation of modern city-planning principles applied to a small self-contained community. To Fay, Spofford & Thorndike, consulting and constructing engineers, of Boston, was entrusted the first development work, which has fully occupied more than two years. For the design and erection of typical homes and the public buildings, the services of some twenty-five architects, all of nation-wide reputation, were enlisted by the company. In this way many men of many minds, yet all being directed

under a common purpose, are producing a pleasing variety with harmony, thus avoiding the monotonous appearance that often is noted in specially planned housing developments. An efficient corps of practical men, all imbued with the spirit of the enterprise, has been engaged for the prosecution of the many operations involved in the making of a complete town.

The building of an entire new town upon practically unoccupied territory provided an exceptional opportunity to plan a comprehensive scheme for the underground utilities and to carry out their construction in advance of other construction, including street surfacing.

The systems of water supply and distribution, sewers, storm drains, and central heating were designed by Fay, Spofford & Thorndike, of Boston, who have served as consulting engineers upon the entire project. French & Hubbard, of Boston, acted as advisory engineers on the heating system. These several utilities, together with the gas, electricity, and telephone, have all been planned to meet both the immediate requirements of the community and its future



Robert R. McGoodwin, Architect.

The houses as recently completed around Albert Place. Robert R. McGoodwin, Architect.

needs when Mariemont and the adjoining territory have become well developed.

The Mariemont general plan provides for a town centre, with its village green and public buildings, including town hall, library, club-house, churches, hotel, community building, theatre, post-office, bank, stores, and public market. Ample provision is also made for schools and playgrounds, athletic field, stadium, gymnasium, tennis courts, varied types of parks, bath-house, lagoon, field-house, park shelter, and interesting reservations for the public on the bluffs above the river.

Rear of Albert Place houses, showing garage treatment.

More important than all are the complete and attractive housing accommodations for wage-earners. Even the lots of the smallest group houses meet the standards of such English garden cities as Letchworth, Hampstead, and Port Sunlight, the density of all the houses of Mariemont being between six and seven families to the acre. Group houses, apartments, semidetached, and detached houses are all provided.

The houses are carefully designed, mostly of brick or other permanent building material. They are provided with all modern conveniences, including electricity and steam heat from a central plant. The initial cost of transportation development, recreation centres, sewage disposal, steam heat, and electric light for dwellings and public places was carried by the Mariemont Company. Adequate provision is made for the proper maintenance of the property as a complete town or suburb.

The total area planned is about 365 acres. This includes the main portion of the property, approximately 250 acres, the river bottom land, 70 acres, and the hospital group, 25 acres. There are over 750 house lots, in addition to the pensioners' cottages. The normal lot sizes for the group houses are 20 feet by 100 feet, and for the semidetached houses 30 feet by 100 feet. The frontages of the detached houses range from 50 to 80 feet, and the depth is approximately 120 feet. About one-half of the property is in lots, one-quarter in public property, and one-quarter in streets. The streets vary in width from 40 to 80 feet. There are over 50 acres in parks alone and more than 70 acres in parks and other public uses. Mariemont provides for a population of about 5,000, with an immediately surrounding population using the main centre, reaching ultimately probably to nearly 10,000 people.

How well the architects have accomplished their tasks is shown in the illustrations herewith.

Since our attention was directed to Mariemont by Mr.

Detached house at entrances to Albert Place.

Double house at head of Albert Place.

Robert R. McGoodwin, Architect

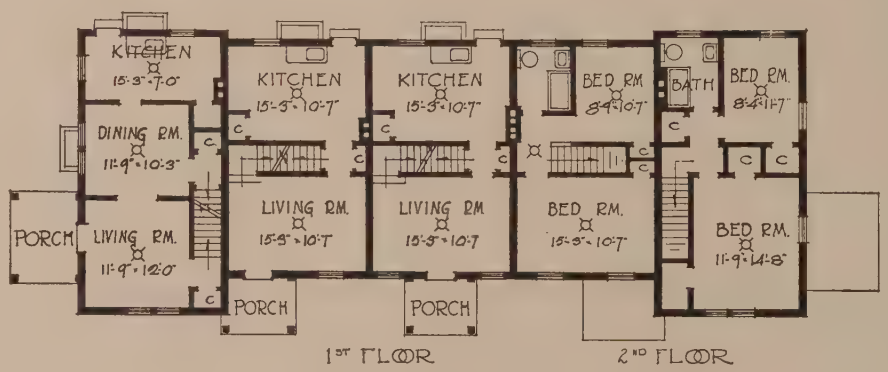
MARIEMONT, OHIO.

Plan 1. Cellarius group housing, Beech Street. Garages in rear on a paved lane. 4, 5, and 6 room houses.
Charles F. Cellarius, Architect.

Gilchrist, in the autumn of 1924, we have followed the work with utmost interest by several visits to the site and frequent notes on the progress of the jobs.

Mr. Livingood has given to ARCHITECTURE his personal co-operation and approval in the presentation of the general scheme and the work of the individual architects. And it is with great satisfaction and appreciation that we are able to record the results to date.

Assignments of group design, plan, and location were given to the architects, and each had an opportunity for individual expression. The designs were accompanied by full specifications and an endeavor was made to produce the actual buildings as the architects had visualized them.



Plan 1. Charles F. Cellarius, Architect.

Mr. McGoodwin says of his group:

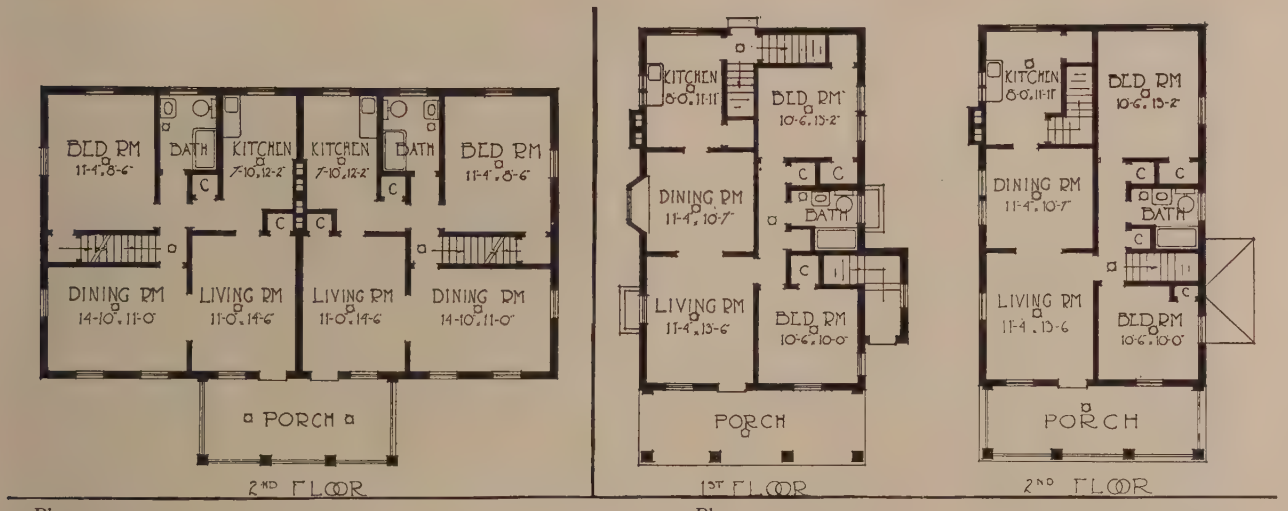
"Relative to the Mariemont Village, and particularly to "Albert Place," which I worked on for Mr. Livingood, I would like to make the following comments, which will explain in a measure the design I carried out.

"It was Mr. Livingood's intention to build a village which would solve the housing problem for people of *very moderate means*. Therefore, I felt it was my problem to design buildings which would be constructed as simply as possible, and which would derive their charm from the study of composition and fenestration, and relied on the proper use of blinds, plants, trees, etc., to form the proper background for this simplicity.

"All refinement of detail in the use of woodwork was eliminated. The walls were constructed of common hard brick and whitewashed. Contrasting notes of color were obtained by the use of mitis-green on the doors in the building and the courtyard walls.

"Of course, it is needless to say that the architect's vision

Plan 2. Plan 3.



Plan 2. Plan 3.

Cellarius group housing, Beech Street. Charles F. Cellarius, Architect.

of this group will not be realized until the planting has been entirely completed and has developed sufficiently with age to produce the background and the softening effect that was visualized.

"I hope this will in a measure explain to you and to the public the crude appearance of this little group of houses at the present time."

Howe & Manning grasped the opportunity of using local materials as the quickest and surest means of making the houses feel at home in their surroundings.

Mr. Gilchrist was anxious to use features on his buildings that seemed out of proportion in cost. He made his point by constructing his entire group of common brick (the full output of a neighboring plant) at a saving that enabled him to carry out his design. The brick was laid and joints treated under his instructions, and the result has justified the method.

Large quantities of general construction materials and equipment were carried in warehouses covering acres of ground, from which supplies could be drawn as construction

Cellarius group housing

MARIEMONT, OHIO.

Charles F. Cellarius, Architect.

Dale Park Fire Station. Charles F. Cellarius, Architect.

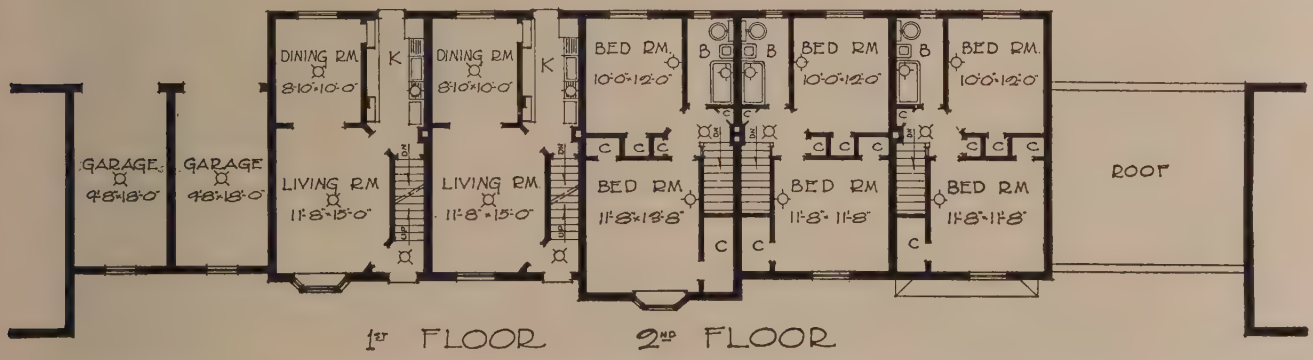
demanded, or selection could be made if a choice of materials was desired by the architect.

There are many more architects whose contributions to Mariemont are not yet available for publication. The Rest-haven Hospital and the Inn are nearing completion. The theatre block, the stadium, and additional residential groups are yet to be designed.

If the ideal of Mariemont has not been fully realized at this somewhat early stage of development, it is much closer to the goal than one would dare to hope. Remember, the ideal was set almost in the stars.

Time will soften any harsh lines and nature will hide any inharmonies that may now be apparent. Trees and vines, shrubbery and flowers play a big part in making a perfect picture.

Even now, men and women interested in housing are making pilgrimages to Mariemont and they are carrying back a treasure of knowledge that will not be lost.



Five-house group plan, for Dana houses facing Dale Park. (Houses on pages 262 and 263.) **Richard Henry Dana, Jr., Architect.**

Corner group, Plainville Pike and Chestnut Street.

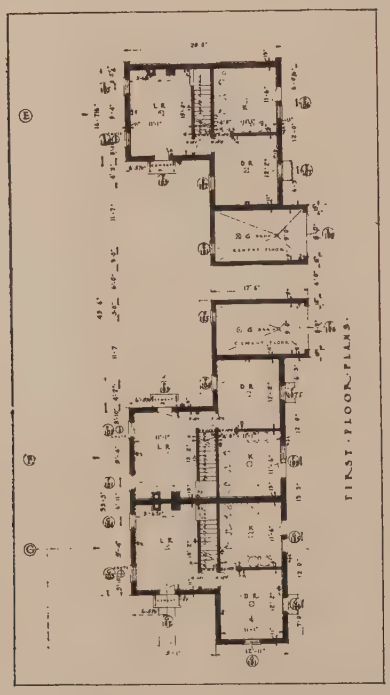
Four-house group, Chestnut Street, facing Dale Park. Richard Henry Dana, Jr., Architect.

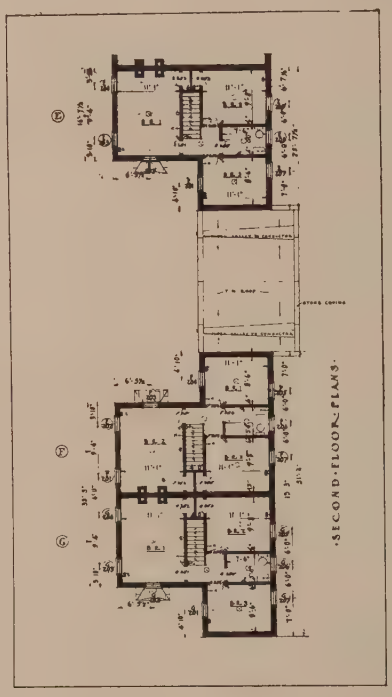
MARIEMONT, OHIO.

Six-house group, Chestnut Street, facing Dale Park.

Five-house group, Chestnut Street, facing Dale Park. Richard Henry Dana., Jr., Architect.

MARIEMONT, OHIO.

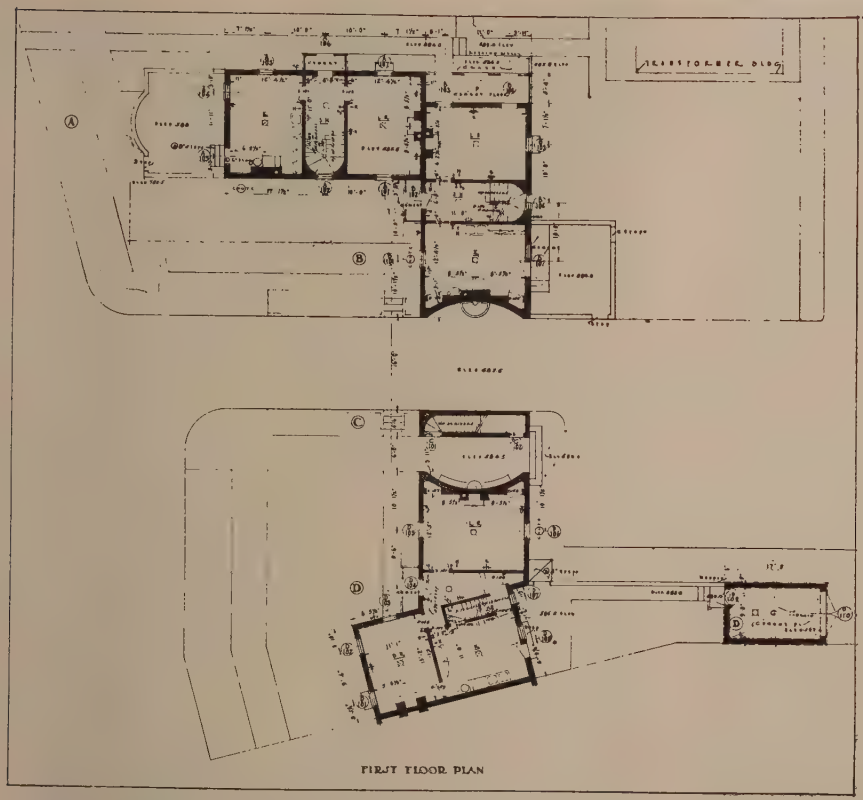


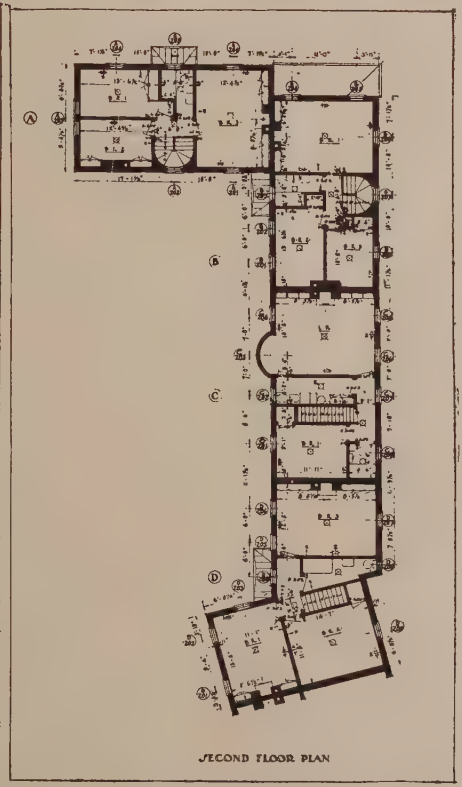


Gilchrist group house.

Edmund B. Gilchrist, Architect

MARIEMONT, OHIO





Gilchrist group housing. 4, 5, and 6 room houses. Varying setbacks and irregular roof lines. Edmund B. Gilchrist, Architect.

MARIEMONT, OHIO.

Gilchrist group housing. 4, 5, and 6 room houses. Dale Park section.

MARIEMONT, OHIO.

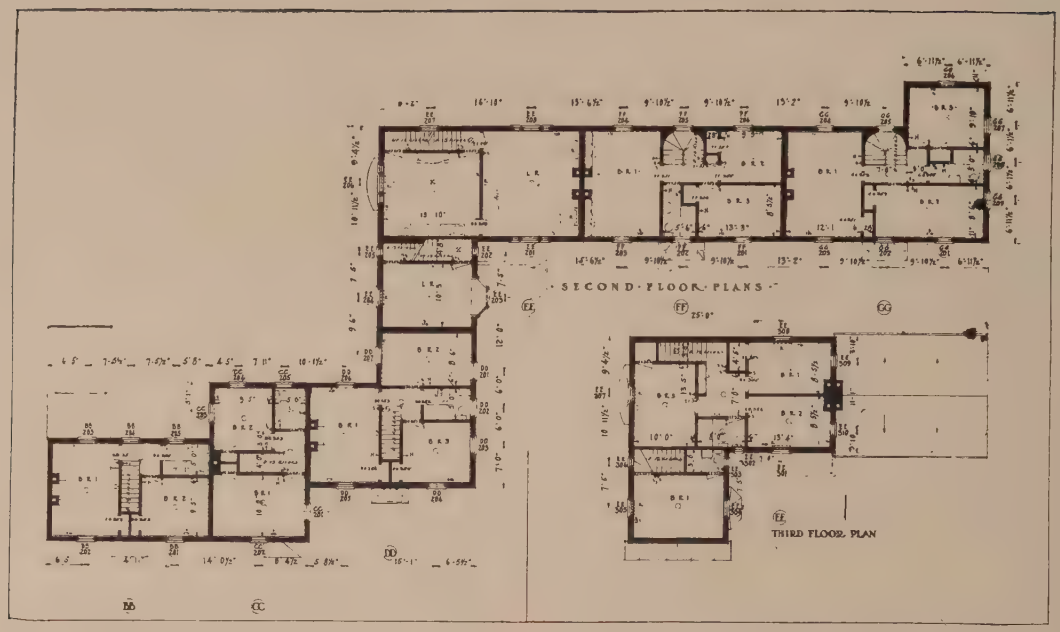
Edmund B. Gilchrist, Architect.

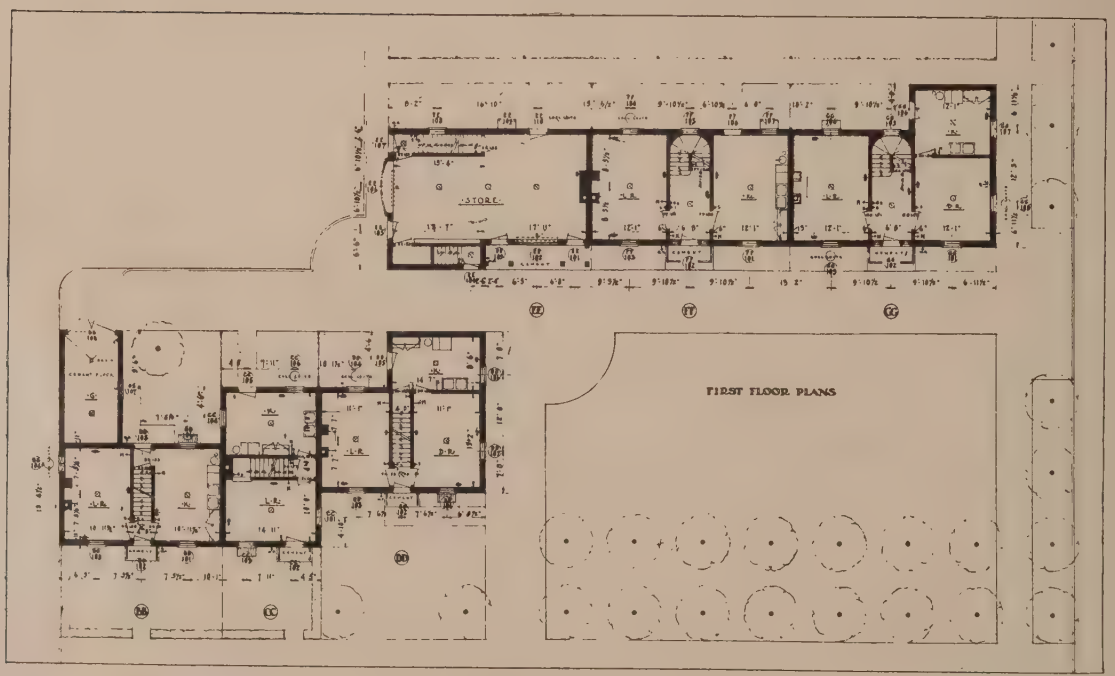
Group plan for 4, 5, and 6 room houses, with group elevation above. Edmund B. Gilchrist, Architect.

Mr. Gilchrist's group, combining apartments with houses of four, five, and six rooms, is an illustration of how the so-called "Philadelphia row" may be broken up into pleasing units through the employment of setbacks in the plan and irregular roof lines. The style of architecture is early Georgian, the motives being those found in the early houses of Pennsylvania and Maryland. The Quaker-like simplicity and restraint of these motives have won for this branch of early American architecture a high place in our affections.

Apartments and service station. (Plans on page 268.) Edmund B. Gilchrist, Architect.

MARIEMONT, OHIO.

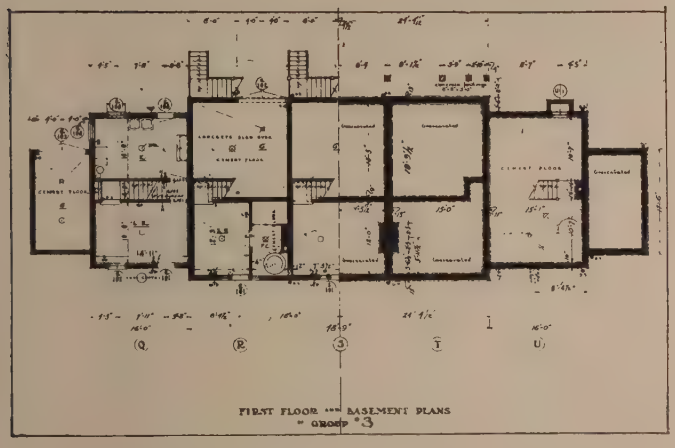


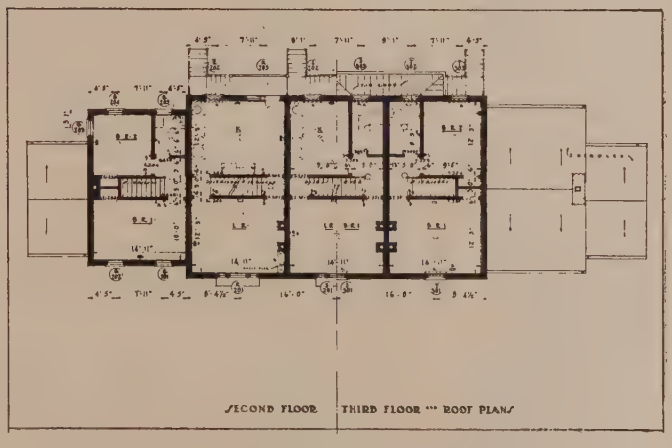


Plans of apartments on page 267.

Edmund B. Gilchrist, Architect.

MARIEMONT, OHIO.



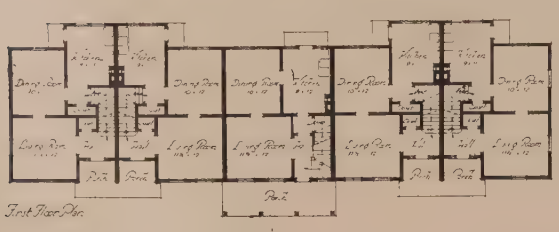


Houses and apartment group.

Edmund B. Gilchrist, Architect.

MARIEMONT, OHIO.

Architects' Model.



First Floor Plan

Forty-seven 5 and 6-room cottages

Second Floor Plan

Maple Street Close. An assignment covering both sides of street. Safe, quiet place for children, free from traffic.

Kruckemeyer & Strong, Architects.

MARIEMONT, OHIO.

Typical houses in Maple Street Close.

MARIEMONT, OHIO.

Kruckemeyer & Strong, Architects.

Houses in Maple Street Close. Kruckemeyer & Strong, Architects.

MARIEMONT, OHIO.

Houses in Maple Street Close. Kruckemeyer & Strong, Architects.

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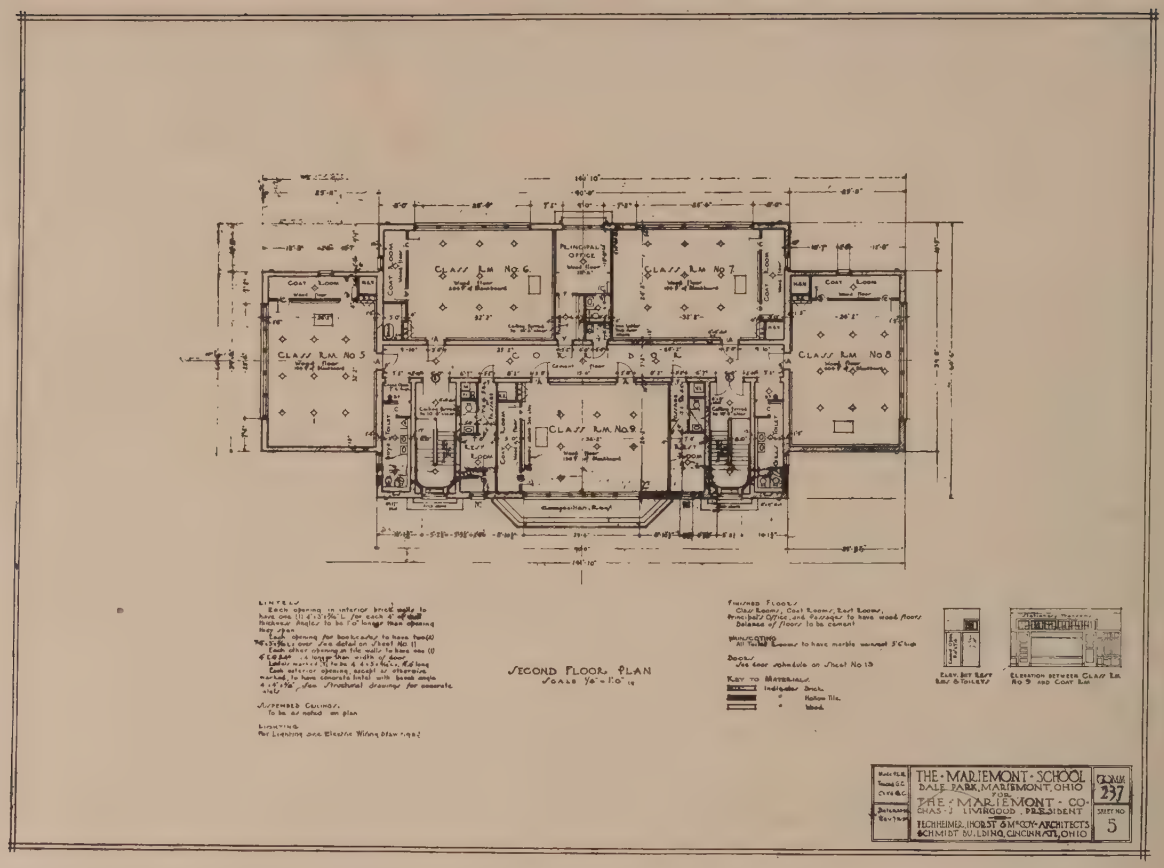
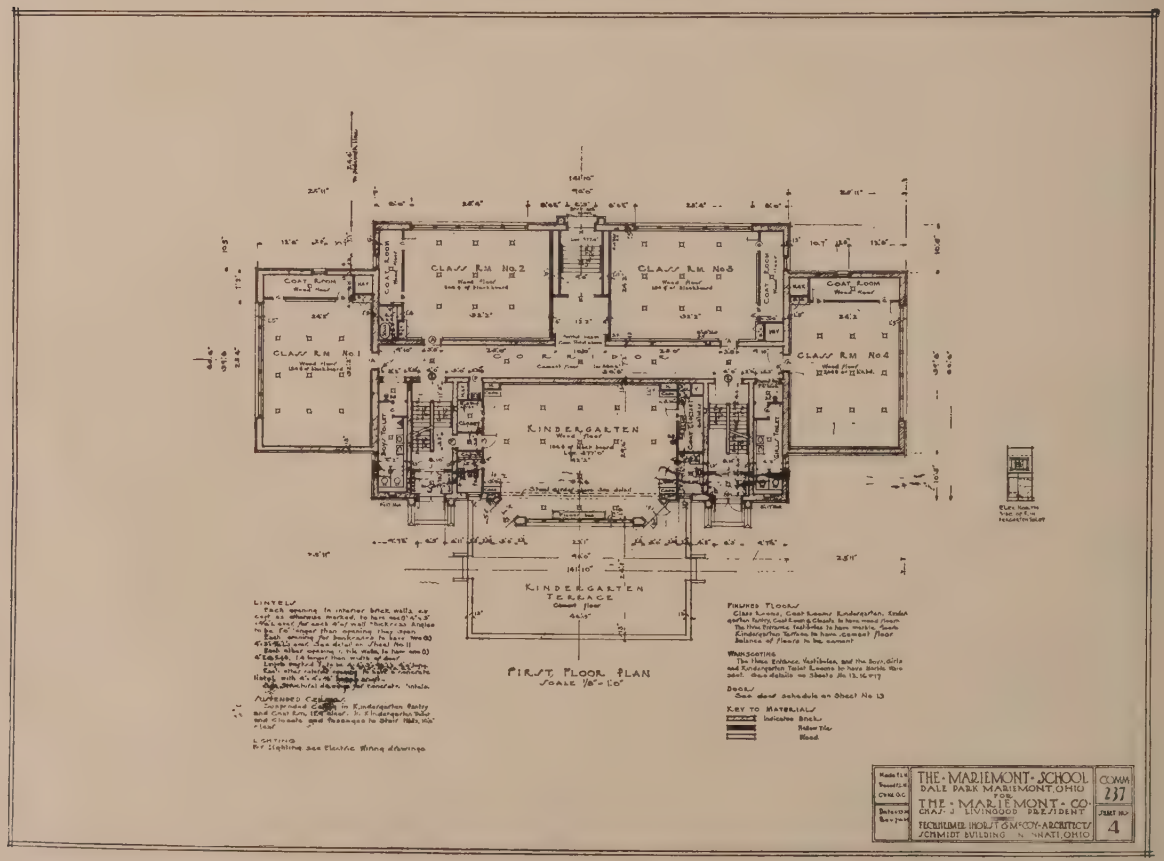




The Mariemont School, Dale Park section. Fechheimer, Ihorst & McCoy, Architects.

MARIEMONT, OHIO.

THE MARIEMONT SCHOOL, DALE PARK SECTION, MARIEMONT, OHIO.

Fechheimer, Ihorst & McCoy, Architects.

THE MARIEMONT SCHOOL, DALE PARK SECTION, MARIEMONT, OHIO

THE FARM BUILDINGS, RESTHAVEN DEMONSTRATION FARM, NEAR MARIEMONT, OHIO.
MODEL DAIRY, COW STABLES, BARN, AND FARMER'S COTTAGE.

Hubert E. Reeves, Architect.

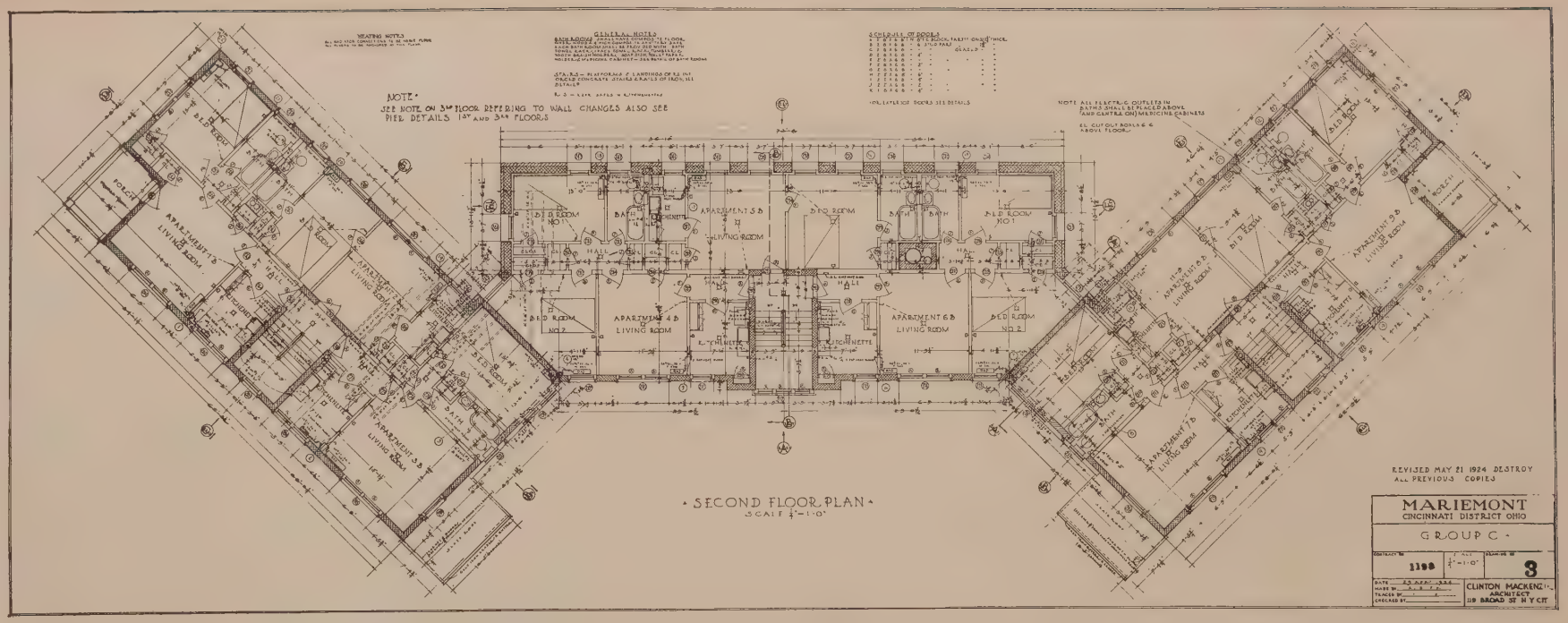
FRONT OF FARMER'S COTTAGE.

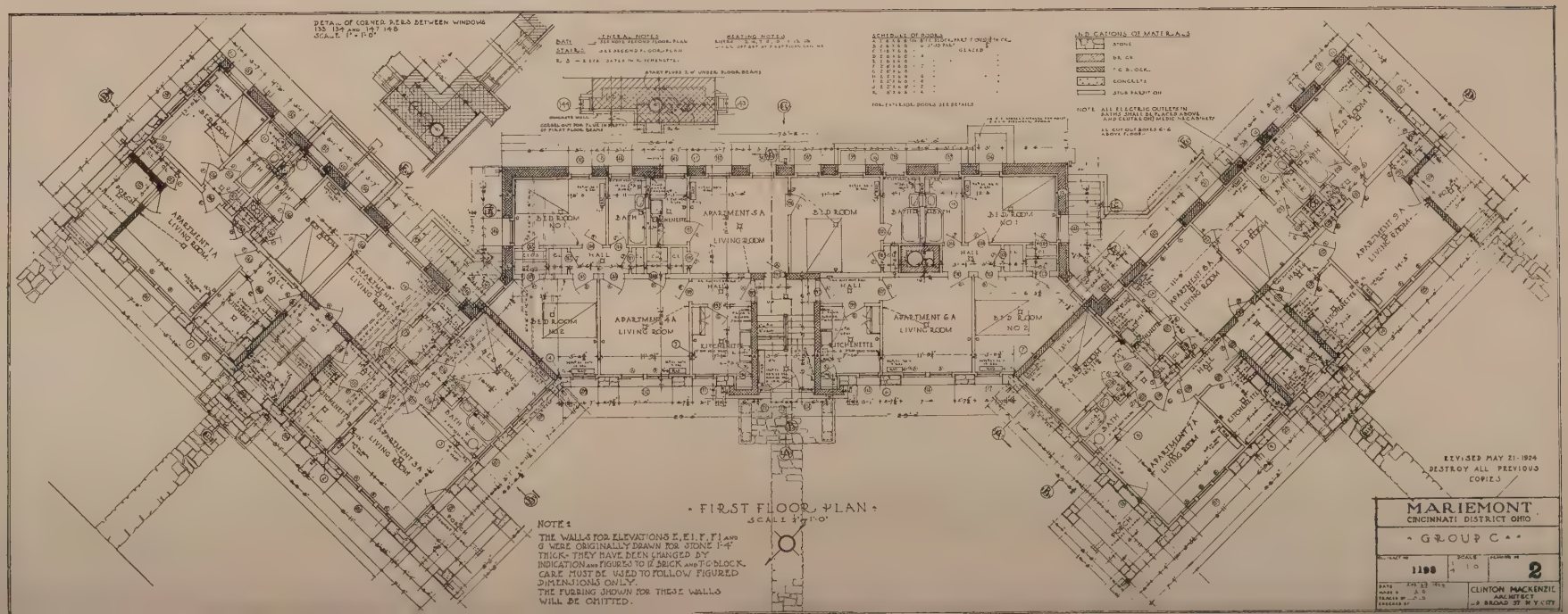
REAR OF FARM BUILDINGS, RESTHAVEN DEMONSTRATION FARM, NEAR MARIEMONT, OHIO.

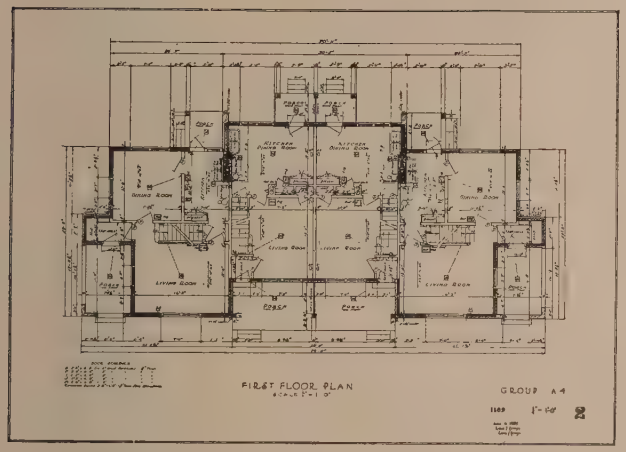
Hubert E. Reeves, Architect.

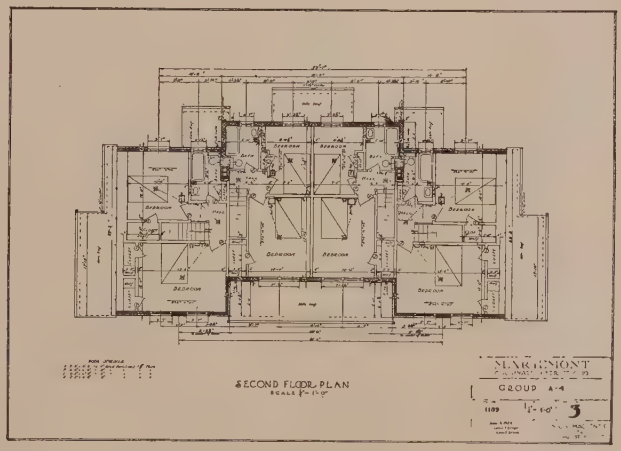
THE MACKENZIE APARTMENTS, MURRAY AVENUE AND BEECH STREET, MARIEMONT, OHIO. Clinton Mackenzie, Architect.

Facing an eighty-foot boulevard. Compact quarters for small families. The apartments are only two rooms deep, affording plenty of light and sunshine.


NOTE:
SEE NOTE ON 3rd FLOOR REFERING TO WALL CHANGES ALSO SEE PIER DETAILS 1ST AND 3RD FLOORS
GENERAL NOTES
SCHEDULE OF DOORS
NOTE ALL ELECTRIC OUTLETS IN BATHS SHALL BE PLACED ABOVE AND CLEAR OF MEDICINE CABINETS
APARTMENT 3 B
APARTMENT 4 B
APARTMENT 6 B
APARTMENT 7 B
APARTMENT 3 A
BED ROOM
BATH
KITCHENETTE
LIVING ROOM
HALL
PORCH
SECOND FLOOR PLAN
SCALE 1/4"-1'-0"
REVISED MAY 21 1924 DESTROY ALL PREVIOUS COPIES
MARIEMONT
CINCINNATI DISTRICT OHIO
GROUP C
1198
1/4"-1'-0"
3
CLINTON MACKENZIE
ARCHITECT
115 BROAD ST N Y CITY

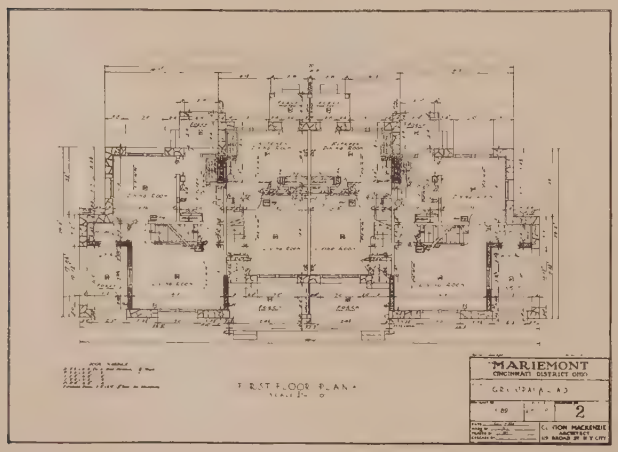

DETAIL OF CORNER PIERS BETWEEN WINDOWS 133 134 AND 147 148
SCALE 1"=1'-0"
GENERAL NOTES
HEATING NOTES
SCHEDULE OF DOORS
NOTE ALL ELECTRIC OUTLETS IN BATHS SHALL BE PLACED ABOVE AND CLEAR OF MEDICINE CABINETS
APARTMENT 1 A
APARTMENT 3 A
APARTMENT 4 A
APARTMENT 6 A
APARTMENT 7 A
BED ROOM
BATH
KITCHENETTE
LIVING ROOM
HALL
FIRST FLOOR PLAN
SCALE 1/4"-1'-0"
NOTE:
THE WALLS FOR ELEVATIONS E, E1, F, F1 AND G WERE ORIGINALLY DRAWN FOR STONE 14" THICK. THEY HAVE BEEN CHANGED BY INDICATION AND FIGURES TO 12" BRICK AND 10" BLOCK. CARE MUST BE USED TO FOLLOW FIGURED DIMENSIONS ONLY. THE FURRING SHOWN FOR THESE WALLS WILL BE OMITTED.
REVISED MAY 21 1924 DESTROY ALL PREVIOUS COPIES
MARIEMONT
CINCINNATI DISTRICT OHIO
GROUP C
1198
1/4" 1'-0"
2
CLINTON MACKENZIE
ARCHITECT
115 BROAD ST N Y CITY

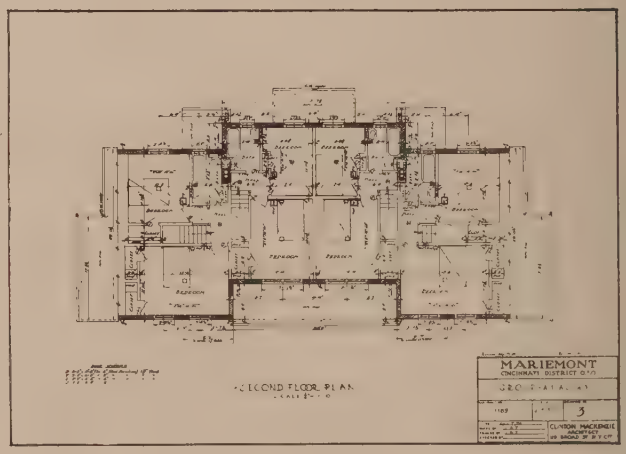




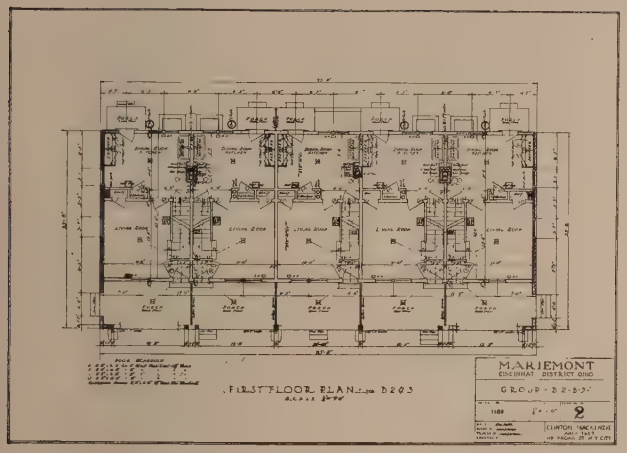
MACKENZIE GROUP HOUSE, MARIEMONT, OHIO.

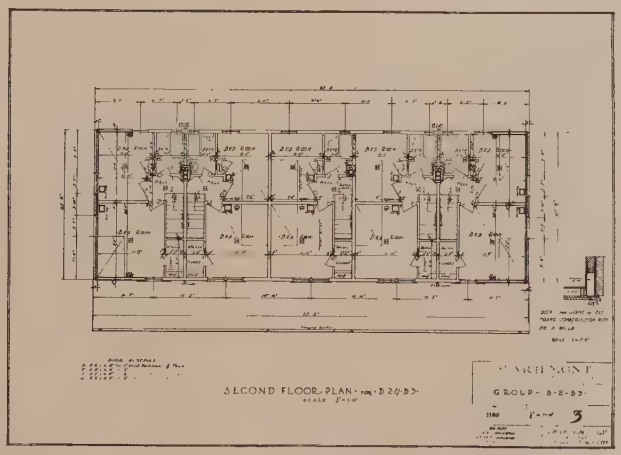
Clinton Mackenzie, Architect





MACKENZIE GROUP HOUSE, MARIEMONT, OHIO. Clinton Mackenzie, Architect.





MACKENZIE GROUP HOUSE, MARIEMONT, OHIO.

Clinton Mackenzie, Architect.

ARCHITECT'S SKETCH FOR GROUP.

HOUSES B, C, D, AND E.

THE SHORT HOUSES, OAK STREET, MARIEMONT, OHIO. Charles W. Short, Jr., Architect.

These stone houses, with garages and ample grounds, were specially designed to be in keeping with the English church opposite them. Of warm brownish-yellow field stone and rough-hewn timber-work, the delicate greens on shingled roofs and trim add a cheerful note of color to the neighborhood.

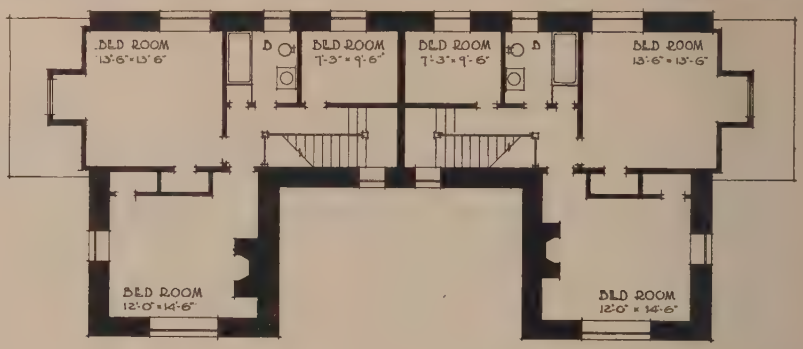
REAR OF HOUSES B, C, D AND E.

HOUSE A. THE SHORT HOUSES, OAK STREET, MARIEMONT, OHIO. Charles W. Short, Jr., Architect.

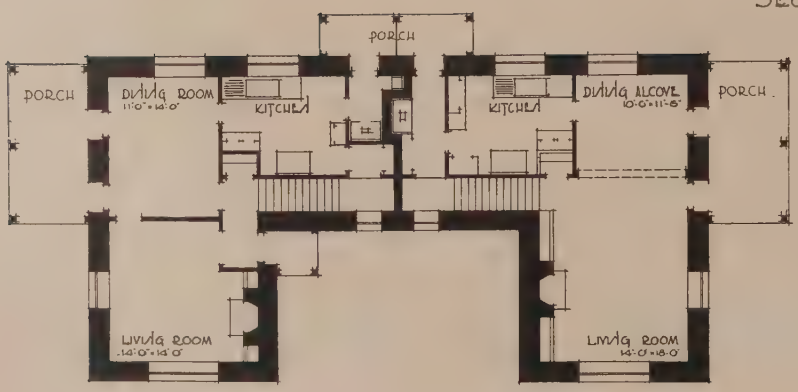
DENNY PLACE. ARCHITECT'S SKETCH. THE QUIET SPOT IN THE VILLAGE.

DENNY PLACE, MARIEMONT, OHIO. Lois L. Howe & Manning, Architects.

FIVE, SIX, AND SEVEN ROOM COTTAGES. NATIVE STONE, STUCCO, BROWN SHINGLE ROOFS.



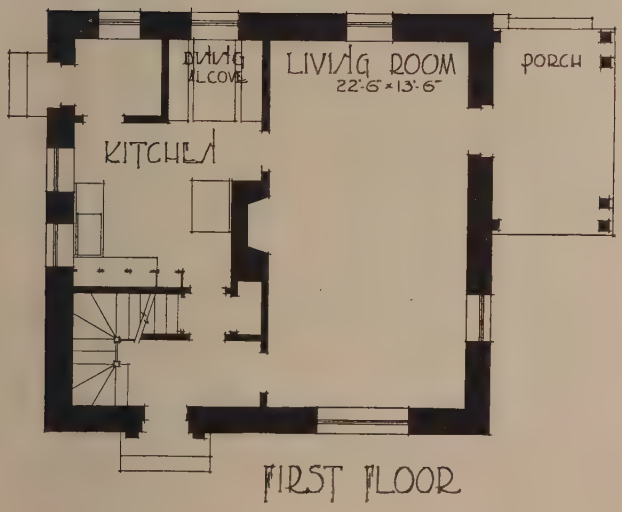
SECOND FLOOR PLAN

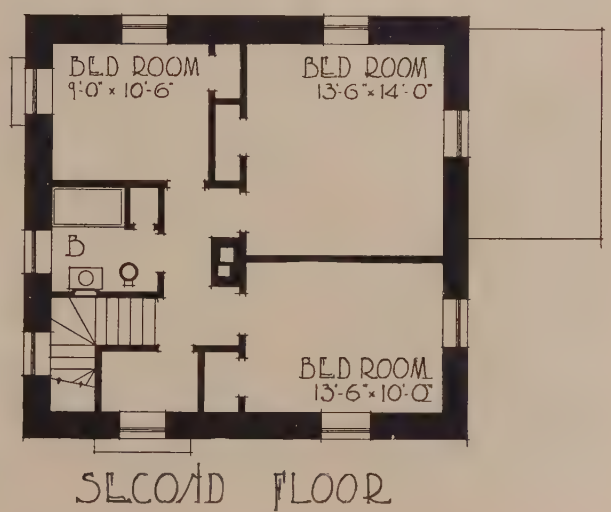


FIRST FLOOR PLAN

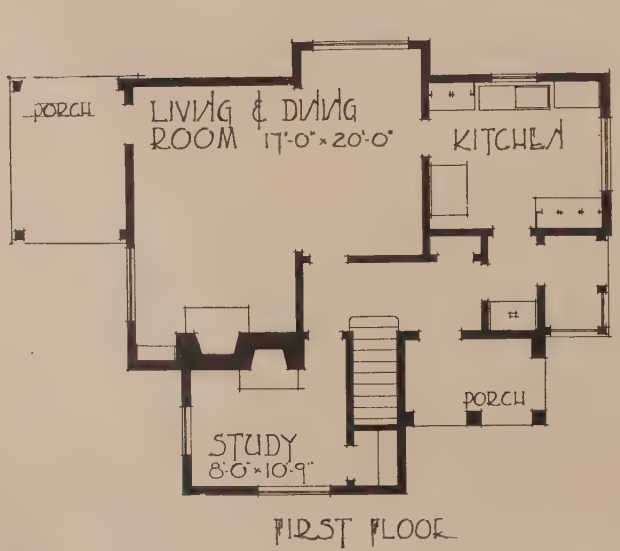
HOUSE B, DENNY PLACE, MARIEMONT, OHIO.

Lois L. Howe & Manning, Architects.

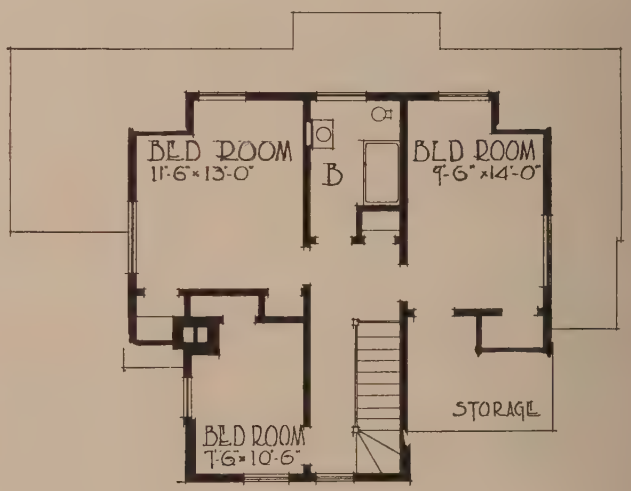




HOUSE E (PLANS REVERSED), DENNY PLACE, MARIEMONT, OHIO. Lois L. Howe & Manning, Architects



FIRST FLOOR



SECOND FLOOR

HOUSE A, DENNY PLACE, MARIEMONT, OHIO.

Lois L. Howe & Manning, Architects.

ONE OF TEN TIMBERED STONE AND STUCCO HOUSES; SIX AND SEVEN ROOMS AND PRIVATE GARAGES.
(In construction.)
Grosvenor Atterbury, Architect.

SHELDON CLOSE.

Colonial Architecture
Early 19th Century
In
Virginia

George Street Door
to the
National Bank Building
Fredericksburg, Va.
Built in 1820

Measured Drawing
By
Albert P. Erb
Washington, D.C.
Sept 1925

Colonial Architecture
Early 19th Century
In
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Princess Ann Street Door
to the
National Bank Building
Fredericksburg, Va.
Built in 1820

Measured Drawing
By
Albert P. Erb
Washington, D.C.
Sept. 1925

FORD MOTOR COMPANY, ENGINEERING LABORATORY, DEARBORN, MICH.

Albert Kahn, Inc., Architects.

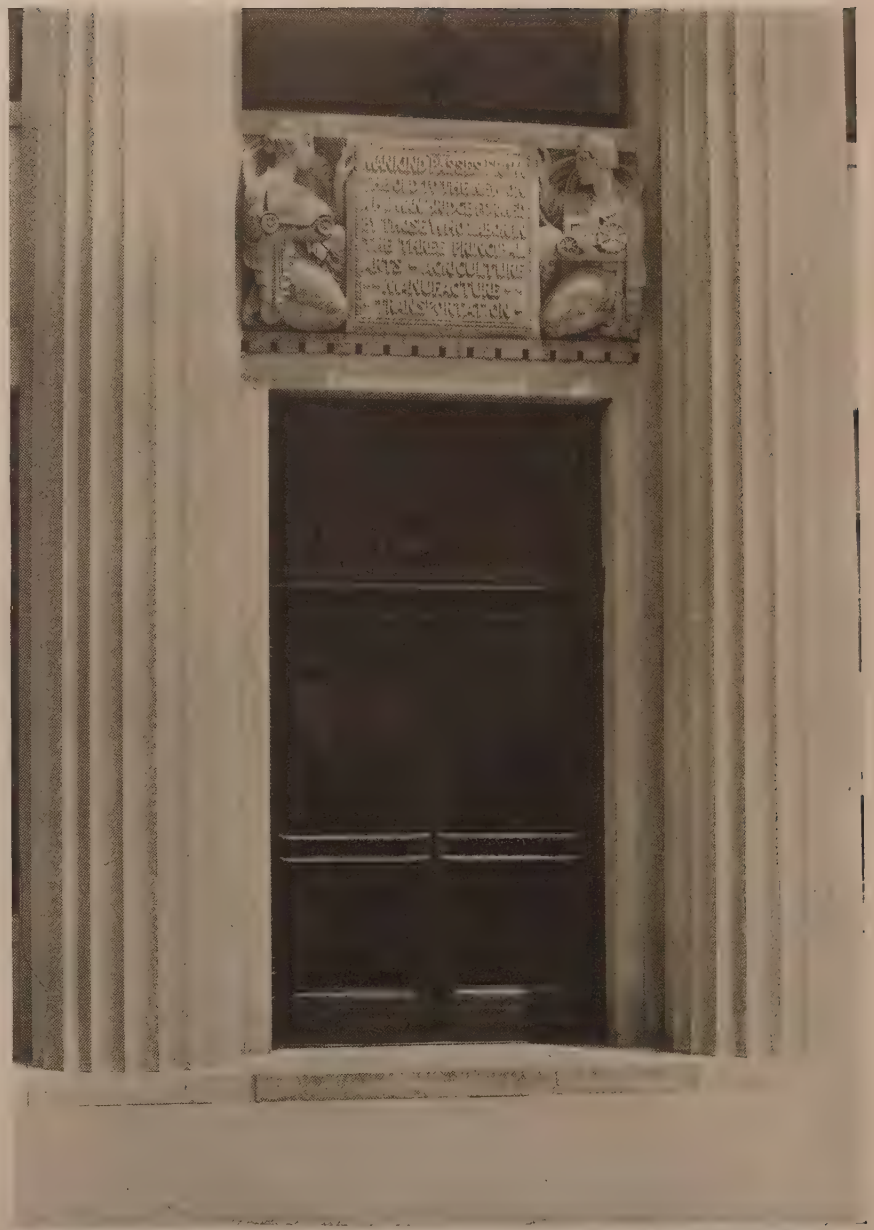
MAIN ENTRANCE.

DETAIL.

Albert Kahn, Inc., Architects.

FORD MOTOR COMPANY, ENGINEERING LABORATORY, DEARBORN, MICH.

ENTRANCE DETAIL.



ENTRANCE TO OFFICES.

Albert Kahn, Inc., Architects.

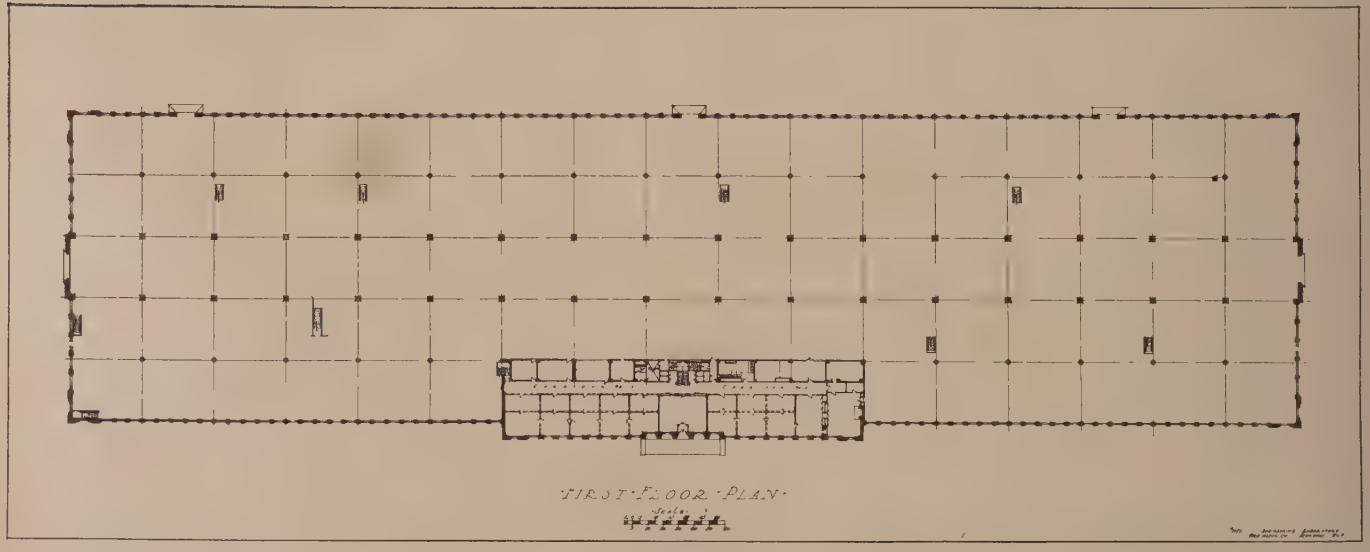
FORD MOTOR COMPANY, ENGINEERING LABORATORY, DEARBORN, MICH.

STAIR HALL IN OFFICE SECTION.

LOBBY.

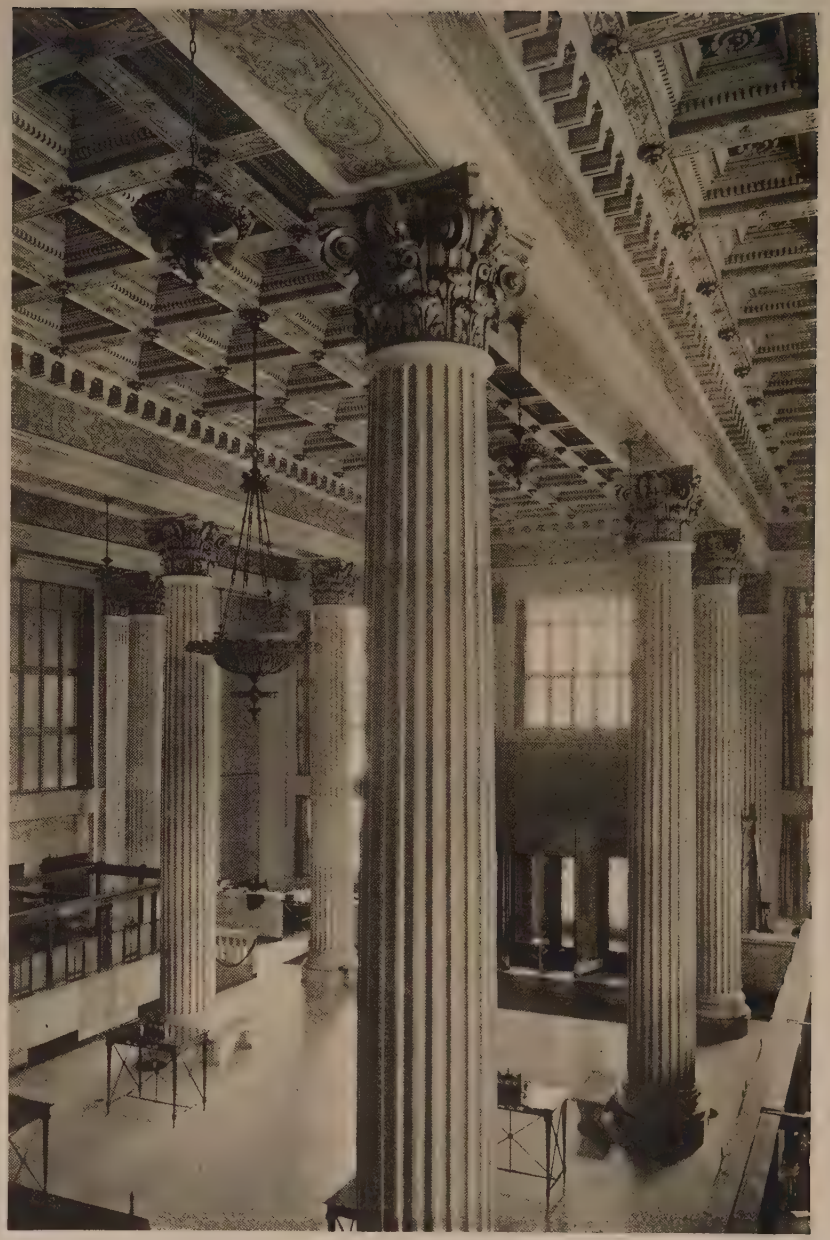
Albert Kahn, Inc., Architects.

FORD MOTOR CO., ENGINEERING LABORATORY, DEARBORN, MICH.



ENGINEERING LABORATORY, FORD MOTOR CO., DEARBORN, MICH. Albert Kahn, Inc., Architects.

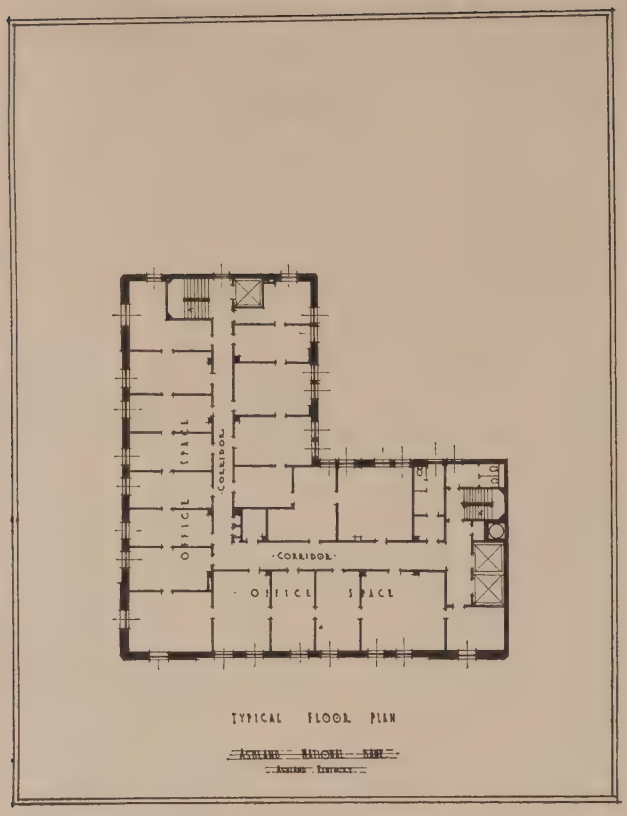
EXTERIOR DETAIL.

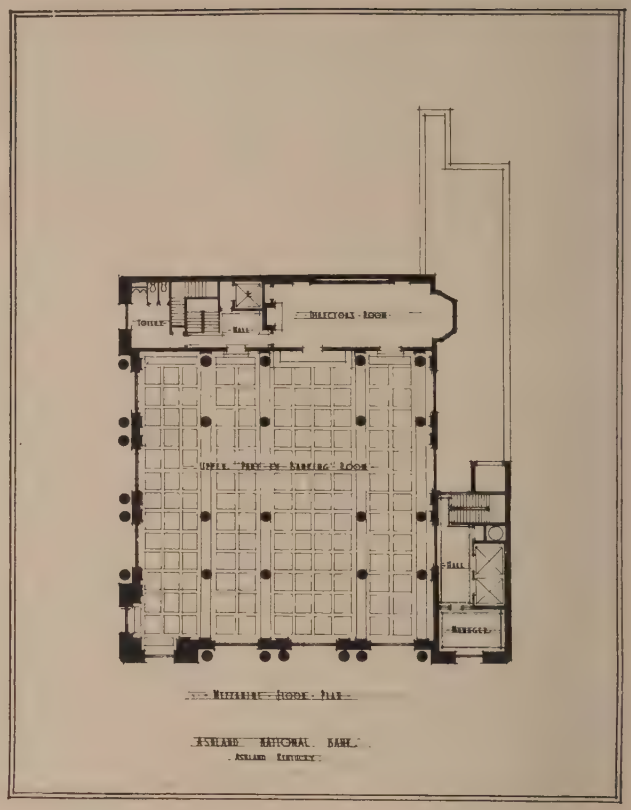


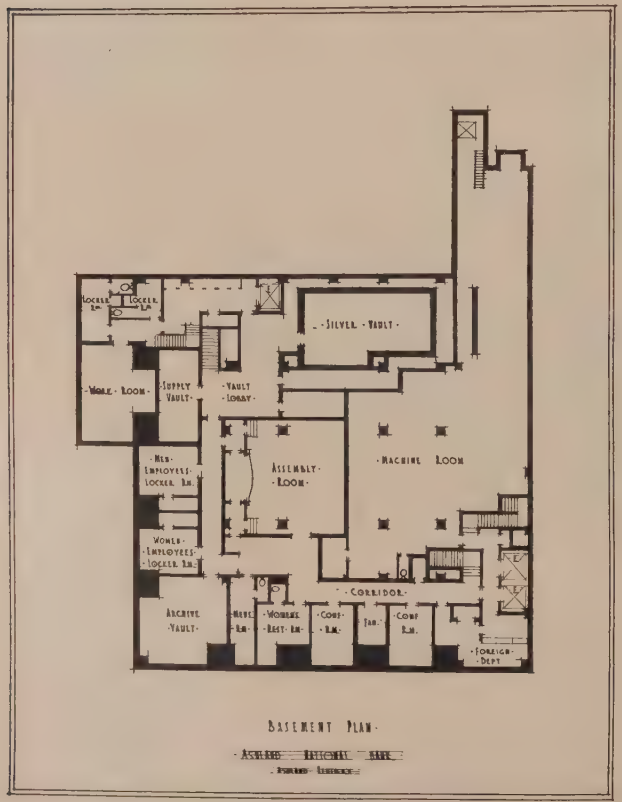
BANKING–ROOM.

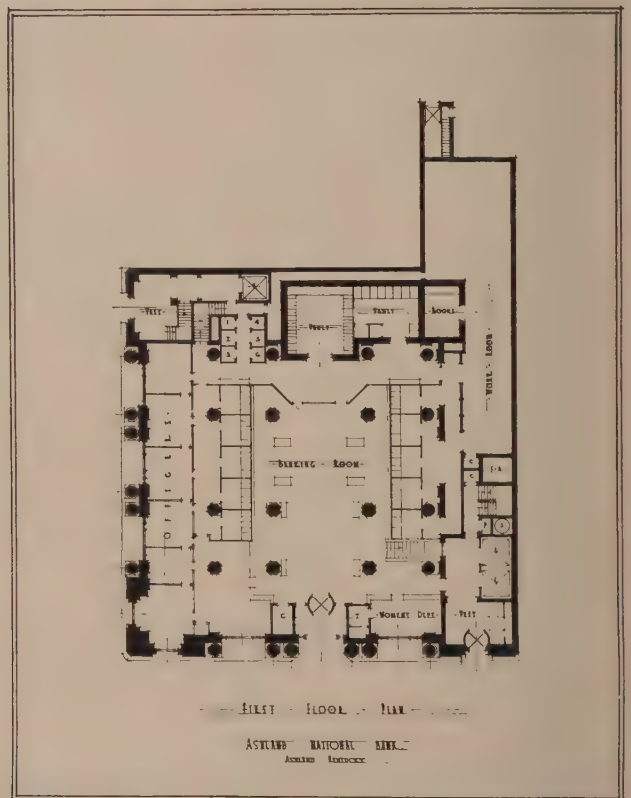
Schenck & Williams, Architects.

THE ASHLAND NATIONAL BANK BUILDING, ASHLAND, KY.









PLANS, THE ASHLAND NATIONAL BANK BUILDING, ASHLAND, KY. Schenck & Williams, Architects.

ARCHITECTVRE*
Published by Charles Scribner's Sons
THE PROFESSIONAL ARCHITECTVRAL MONTHLY
*Reg. U. S. Pat. Office

Editorial and Other Comment

Mariemont—"A National Exemplar"

THE failure of many widely advertised and so-called idealistic housing projects has been due chiefly to the fact that more or less vague and undigested plans have overlooked the inevitable tendency of the people who are led to invest in these projects either to buy beyond their means, or to find that increasing families make it impossible to maintain certain standards of living with which they began.

There are suburban developments all around our chief cities that have degenerated into squalid tenement-house conditions, with a lowering of morale and a shameful indifference to decent sanitary living. This is perhaps particularly true with regard to the great city of New York, where the congestion of population is fast becoming intolerable.

Many promising real-estate ideals have gone the way of the inevitable, and either become centres of the cheapest and flimsiest sort of jerry-built housing, a torture to the eyes of every discerning passer-by, or the place of abode of people of social ambitions with incomes that are stretched to the breaking-point in the effort to live as well as the other fellow. The trouble with many enterprises of this sort is that there is no assurance of fixed charges. Rentals are arranged not on a basis of fair returns, but on the idea of getting the most that the traffic can possibly pay.

With the current demand for almost any kind of a place in which to live outside of the cities, owing to the, in many cases, prohibitive high cost of even the smallest apartment in town, the exodus to the suburbs has become a struggle for every available habitation.

Real-estate values have jumped beyond the dreams of even the most optimistic speculators, and fortunes have been made right about our northern cities that make the much exploited fairy-tales of Florida look like mere temporary gambles. There is no end to the onward and upward rise in values for every acre of occupiable ground within commuting distance of any of our great centres of population.

Cincinnati is the third most congested city in the United States, and in January, 1924, one-third of the entire population were living in tenements.

To do something to relieve this condition, not with any merely philanthropic ideals, but with a thoroughly considered practical plan of development along the most approved methods of modern town-planning, has been the purpose of Mrs. Mary G. Emery, a lifelong resident of Cincinnati, and her representative, Charles J. Livingood.

In the first place, they began with the right idea. They called to their aid such qualified and experienced town-planners as John Nolen and Philip W. Foster, and they have carried out the aims of the projectors with rare skill and an understanding of essentials.

Mariemont is in no sense an experiment, but the application of the best principles of such famous garden cities as Port Sunlight and Letchworth in England.

It is not intended, however, to be a place for the development of sociological theories, but as nearly as possible a complete solution of the problem of building a town that when completed will express the most modern and considered ideas in comfortable community-living.

Situated only ten miles from the heart of the city, it is easily accessible, and is intended to meet the requirements of people of varying degrees of economic standards. Its projectors believe that artisans, operatives, workers generally, for whom it is principally intended, will find Mariemont as near the ideal solution of the living problem as it is possible to make it. It is a place of homes with all that the word would signify. Homes of all kinds, single and multiple, designed with taste and representative of architects whose high standards have been recognized all over the country.

In the variety and charm of the designs, and in the uses of many differing materials, is presented an object-lesson for all architects, and we feel especially obliged to Mrs. Emery and Mr. Livingood, and to the architects whose work we have the pleasure of showing, for their co-operation and for the privilege of putting Mariemont before our readers.

Nothing so comprehensive has ever been done before in the country, and we shall follow the progress of this "national exemplar" with increasing interest and with the fervent hope that it can be maintained in accordance with the fine ideals with which it has been founded.

The scheme has attracted the attention of architects, and those interested in the bettering of living conditions, all over the world. Every conceivable need of a home-loving community has been anticipated in the way of schools, churches, library, recreation places, parks, amusements, and needless to say it began with the most scientific care for such essentials as a good water supply and sanitation.

Mariemont is something very much more than a merely well-considered real-estate development. It is a vital and significant test of the capacity of our mixed peoples to accept and live up to a great opportunity offered.

The architects engaged include Charles F. Cellarius, Elzner & Anderson, Fechheimer, Ihorst & McCoy, Garber & Woodward, Samuel Hannaford & Son, Kruckemeyer & Strong, Charles W. Short, Jr., Herbert Spielman, Joseph Steinkamp & Bro., Zettel & Rapp, all of Cincinnati; Howe & Manning, Allen W. Jackson, Ripley & LeBoutillier, of Boston; Grosvenor Atterbury, Richard H. Dana, Jr., George B. de Gersdorf, Louis E. Jallade, Clinton Mackenzie, Henry O. Milliken, Hubert E. Reeves, of New York, and Arthur H. Brockie, Paul P. Cret, E. B. Gilchrist, Robert R. McGoodwin, Wilson Eyre & McIlvaine, Carl A. Ziegler, of Philadelphia. Certainly a representative list, whose work is always distinguished and worthy of special study.

It would be especially interesting in this instance if each building, or group of buildings, might be marked in some way with the names of the architects. We believe this would serve, in many ways, to make the work of the architects more of a personal matter, and increase the interest of

the public in the study of architectural details and matters of composition and structure.

The architecture of thousands of buildings is an impersonal matter, whereas it should be of as much interest to know the name of an architect as the name of a painter attached to a canvas in a public gallery.

An Outdoor Museum of Architecture

PROFESSOR WILLIAM A. BORING, director of the Columbia University School of Architecture, has made an admirable suggestion in his annual report. He proposes a great museum of architecture where there could be shown and studied by students entering the school, an exhibition of casts and various details of the great architecture of the world. Many of these can be seen only by students who are fortunate enough to be able to take a European journey, and of course this means few indeed in proportion to the number of students entered for the architectural courses.

We have the fine exhibit of casts in the Metropolitan Museum of Art, and the remarkable collection in the Cloisters of George Gray Barnard, recently purchased for the museum, but there is no adequate college collection that we know of where the student can study and measure at his leisure.

The trouble with much of the work done by students in design is that they have no access to the fine things upon which to build ideas. Book knowledge is all right, but is not to be compared with a study of models of the actual objects. As Professor Boring says:

"I wish to urge again my plea to turn the court, surrounded by the Chapel, Fayerweather, Schermerhorn, and Avery Buildings, into an outdoor museum of architecture where we may have beautiful casts of the Orders of Architecture and many other fine examples of detail and objects of art.

"If this can be done, we will be able to start the training of our students in observation immediately upon their entrance into the school, for we would have them study the orders by measurements and sketches from the full-size models, implanting in their minds at the beginning a sense of the finest proportions of architectural forms left us by the past.

"We would be able to impart a more intimate knowledge of beautiful form, to make up for the lack of vision of our young students who have not lived abroad."

Apartments in the Suburbs

REAL estate has become so expensive in the suburbs within commuting distance that it is no longer possible for families of modest incomes to own their homes, and city rents have almost become prohibitive. The result appears in the rapidly multiplying apartments in suburban towns everywhere.

Some of these are as large as many city apartments, and offer all the conveniences of the best.

In many it has been possible, on account of the smaller cost of land, to use large spaces for garden courts that offer abundant air and playgrounds. A notable instance of this kind of development is seen in the many attractive apartments built in Jackson Heights. Block after block has gone up here, many of the buildings on the co-operative plan, where the apartments are owned by the tenants.

The co-operative apartment idea is becoming more and more a practical solution of the problem of living within one's means, and with the assurance of a fixed rent in the way of carrying charges that may, as time goes on, be reduced.

Many are living in apartments to-day who had sufficient foresight to realize the advantages of such ownership and are paying half or less than they would pay on the ordinary rental basis. Such apartments can often be sublet for the summer, or for short periods in the winter, at prices sufficient to cover the entire expense of the year.

It is the ideal way of living for families or individuals who may have time for long vacations, for they can go away with the assurance of having a home to go to when they return.

In New York some of the most profitable co-operative apartments were built years ago by a number of artists, who in some instances have rented them for enough to provide comfortable living incomes when they were in Europe, or off on some journey after new subjects.

There are many things to consider in going into one of these developments, and care should be taken to insure the investor of an overhead that means just what the prospectus says, and not something that may easily become a burden and an impossibility.

There have been several unfortunate enterprises that have started out hopefully enough, but have landed on the rocks through a lack of sound business management.

Book Reviews

THE ART OF THE MINIATURE PAINTER. By George C. Williamson and Percy Buckman, R. M. S. Universal Art Series. Charles Scribner's Sons, New York.

How many treasured old family heirlooms are in the form of miniature. Those little portraits inclosed in leather cases, and exhibited with so much pride of ancestry and talk about the art.

What dainty, luminous, and charming records of the past these minute paintings are. They employed the skill of some famous names and, as many of our readers know, who have had the privilege of studying the wonderful Morgan collection in the Metropolitan Museum of Art, they become in time precious in every way.

It has been the intention of the authors to review the past and to give practical information in regard to colors, materials used, and various technical methods.

The illustrations give a view of what the old miniatures meant and show the manner in which the earliest portraits were produced, and include some beautiful modern examples.

It is a book for the artist and collector and all interested in the arts in general.

SELLING CONSTRUCTION SERVICE. By Charles F. Dingman. McGraw-Hill Book Co., Inc., New York.

This is a little book of practical suggestions on such vital and essential business getters as good advertising methods, sales letters, personal contacts, etc. It summarizes the results of experience and a study of up-to-date practices.

CARILLON MUSIC AND SINGING TOWERS OF THE OLD WORLD AND THE NEW. By William Gorham Rice. With Photogravure Frontispiece and seventy-eight full-page Illustrations. Dodd, Mead & Co., New York.

Ring out, wild bells. They will soon rival the radio. Every European traveller has been kept awake nights by the sweet and mellow-toned bells in some church tower or public building, and no memory of Bruges is longer retained than the sound of the bells of the Belfry that Longfellow celebrated. We are to have our carillons, already have some notable ones, as you will see by reading this interesting book.

An American musician even predicts that "in ten years there will be in America quite as many fine carillons as there are in all the rest of the world combined."

We hope they will be as considerate of their use as the directors of the clock bells of the Metropolitan Life Insurance Co. in Madison Square. They turn them off at an early hour of the evening.

BRICKWORK IN ITALY. A Brief Review from Ancient to Modern Times. American Face Brick Association, Chicago.

The present work, entrusted to two young scholars, Professor Carlo Roccatelli for the Ancient and the Renaissance periods, and Professor Enrico Verdozzi for the Mediæval and Modern, does not claim to be exhaustive. Its aim has been to collect a number of examples, chosen from among the most notable and significant to be found in the different epochs of Italian art, and to provide them with an illustrative treatment, partly synthetic and partly analytic, which will set forth the peculiar characteristics of each example and trace the main lines of brick technology and art during the respective architectural and constructive epochs. It should prove a useful reference in the Architect's library.

Choosing the Floor Construction

SECOND ARTICLE

By Theodore Crane
Associate Professor of Building Construction, Yale University

IMMEDIATELY following the choice of a structural frame comes the matter of selecting the most desirable type of floor construction. In the former case, as soon as the location, type of occupancy, and general proportions of the building were known, the problem was comparatively simple. Such is not always true of floor work. The architect usually desires a so-called fireproof construction, capable of bearing the design-loads, and interfering as little as possible with the architectural treatment of the interior. Economy is also essential and is effected by obtaining not only a minimum first cost, but by considering also the cost of contiguous or dependent work, and the loss of building height, for any particular floor system, due to the depth occupied by the structural members.

Practically all modern systems of floor construction are sufficiently fireproof or, more correctly, fire-resistant, to meet the requirements of local ordinances and the regulations of the National Board of Fire Underwriters; most systems can also be designed to support widely varying loads, but have a much narrower range of application when cost is considered. The problem of using the most desirable, from a total of more than twenty widely used systems, becomes then a matter of selecting the one which combines, in the highest degree, the two qualities of unobtrusiveness and economy. Quite often the type that is the most suitable structurally will prove to be the best architecturally, as a favorable distribution of load and the employment of the most economical materials for the structural design result in thinner floors and shallower beams.

Structural steel and reinforced concrete are the two principal materials employed to span the openings between the members of a building-frame at the various floor levels. The use of masonry in vaults and flat domes is practically confined to certain types of monumental buildings and represents only a very small proportion of the total work done in floor-construction. Materials of gypsum origin have also been successfully used in place of concrete for light loads and the so-called "Metal-Lumber" has been quite widely accepted for some classes of work. With these and a few similar exceptions, structural steel and reinforced concrete are the only two materials used to transfer the floor loads to the supports. The other materials, such as terra-cotta and gypsum blocks, act principally as fillers, except in the case of very short spans, where arch-action exists to such a degree that it may be considered in the design.

As the character of the floor system is largely influenced by the material used in the supporting girders, which latter are a part of the building-frame, certain systems can be eliminated as soon as the type of frame has been determined. For example, no one would consider using a girderless floor construction in a building having a structural-steel skeleton. Such a floor would be possible but very likely uneconomical for a structure supported by bearing walls, and ideally suited to a reinforced-concrete frame. Similarly, in the latter type of building, it would be highly inappropriate to use a system employing structural steel. Proceeding, then, toward the choice of a floor construction for a particular building, the first step is to eliminate all of the possible systems which are palpably inappropriate for the building frame.

Next in importance comes the matter of floor loads. The live loads required upon the various floors are fixed by the location and type of occupancy. The dead loads differ for each system of design, but may easily be determined from the manufacturers' literature, or by the use of a good handbook. We are, therefore, in a position to compute quite easily the approximate load per square foot for any floor construction under consideration.

This is very important information and our second step should be to test each of the possible designs in the light of its being appropriate, or inappropriate, for the load to be carried. Many systems, such as the ribbed constructions formed by a series of narrow reinforced-concrete beams placed between terra-cotta blocks, or metal tile, are particularly designed for light live loads, varying from 40 to 60 pounds per square foot. Likewise, a girderless floor construction will usually prove more desirable than a beam-and-slab design for warehouses and industrial buildings subject to medium and moderately heavy live loads within the approximate range of 100 to 300 pounds per square foot.

Having thus eliminated those systems which are particularly intended for loads heavier or lighter than our own, the third step is to determine from the structural floor-plans whether a one-way or a two-way system is desirable. The plans will not usually be finished at this stage of the design, but it is only necessary to have the column and partition locations determined to such an extent that the positions of the supporting members are approximately known. A two-way system, one in which the load is carried to all four sides of a panel or bay, can often be used to advantage where there are partitions to conceal the girders, or where the latter are not objectionable from an architectural view-point. Whether constructed of solid reinforced concrete, or in the form of concrete ribs between fillers, a two-way system has a distinct structural advantage which results in reducing the depth of the floor construction, frequently more than offsetting the additional cost of supplying supports on four sides of the bay instead of on two sides. However, a two-way system is not practicable unless the panels, or bays, are approximately square. The exact limit of economy, as the ratio of length to breadth increases, varies with local conditions and even the distribution of the load is unlike in different building ordinances. Generally speaking, a two-way system may prove economical and should be strongly considered for square bays, or those in which the longer dimension is not over one and one-quarter the shorter dimension.

In comparing the relative value of different designs, it is important to base the decision upon a typical floor-plan. Economy often demands a certain degree of standardization in the sizes of structural members at the various floor levels. This is particularly true of reinforced concrete, in which material it is seldom desirable to alter the size of beams, or girders, to correspond with the reduced loads upon a roof. Similarly, in a fifteen-story hotel building, economy in the

first floor, mezzanine, and roof designs may well be sacrificed if the construction of the typical, intermediate floors is properly chosen.

By this time, the choice of a floor system will have narrowed down to a very few possibilities, probably three or four at most. Beyond this it is impossible to go on the basis of design considerations alone and it is almost invariably necessary to consider local conditions governing materials and labor in order to make a final choice. Freight charges are naturally higher on bulky materials, such as terra-cotta block, than on metal tile, and mitigate against the use of fillers of this nature. The cost of concrete aggregate might be so high as to necessitate the very minimum use of this material. Local building ordinances are also a very important factor in choosing a floor construction, as, for example, the requirements covering the use of cinder concrete for short spans in New York City. Under these regulations, a structural-steel frame with steel beams spaced up to eight feet apart, and supporting cinder-concrete slabs with one-way reinforcement consisting of wire fabric, is the almost invariable choice for multistory structures of the hotel, apartment-house, and office-building type. The regulations of the local trade-unions may also play an important part by demanding that certain materials be placed by high-priced trades, thereby increasing the cost of a system out of all proportion to the actual labor involved in installation.

Having carefully noted these various conditions which influence the cost of the work, the last step is to make an approximate design of a typical bay on one of the typical floors, for each system between which it is required to choose. This is not as difficult as it seems, owing to the information available from the manufacturers' catalogues and reliable handbooks. In fact, an approximate design, sufficiently accurate for merely estimate purposes, can usually be written off without any involved computation. A study of the quantities comprising these various estimates will generally result in an immediate decision as to the most economical system, provided that all contiguous and dependent work is considered. For example, the value of a flat ceiling without the use of furring, obtainable with a terra-cotta or gypsum block, may more than offset the lower cost of another design that requires a hung ceiling. On the other hand, a suspended ceiling may be necessary in any case to accommodate the ducts of a ventilating system. The relative dead load of the floor construction is also an important item in its effect upon the size of the columns of particularly high buildings, and where such is considerably different for various possible systems, may require the assistance of an engineer in the computation of approximate sizes for a typical stack of columns and the supporting footing. The sizes of structural members must, however, be approximated in any case, in order that adequate clearances may be allowed, and it will be found expedient to work up this information in connection with a study of floor and wall construction. Prices of materials in various localities can be obtained upon inquiry from the manufacturers, and reliable contractors are more than willing to assist an architect by furnishing prices of installation. Such estimates of costs need not be accurate in order to serve their purpose of indicating the most economical system. This method of procedure will result in far greater efficiency than sending out a fully completed architectural design as a basis for bids upon various structural systems.

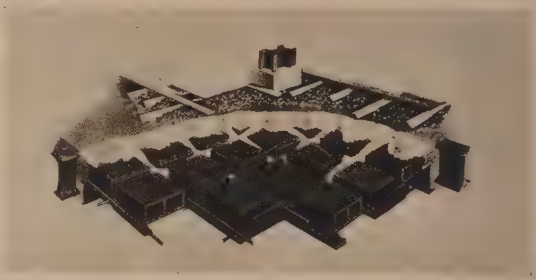
The following ten types of floor or roof construction have been chosen from a much larger number as representative of the systems most widely used at the present time:

1. Cinder-concrete slabs of short span, with soffits flat

Cinder-concrete slabs with structural-steel framing.

or arched, are used with a structural-steel frame, for either light or heavy loads, and with a one-way system of reinforcement, usually composed of wire fabric or expanded metal lath.

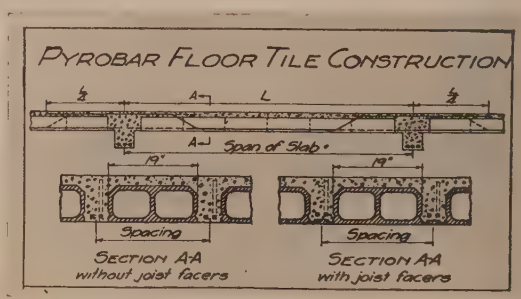
2. Reinforced-concrete ribs are separated by terra-cotta blocks 12 by 12 inches square and usually covered by 2 to 3 inches of concrete. The ribs are 4 or 5 inches wide. This



Concrete ribs separated by terra-cotta blocks; two-way system. (Republic Fireproofing Co.)

system, used with either a structural-steel or reinforced-concrete frame, is suitable for light or medium loads (40 pounds to 120 pounds per square foot), and may be designed as a one-way or two-way system. The reinforcement consists of one or two small rods in each rib.

3. Reinforced-concrete ribs are separated by gypsum blocks 19 by 19 inches square and covered by 2 to 3 inches of



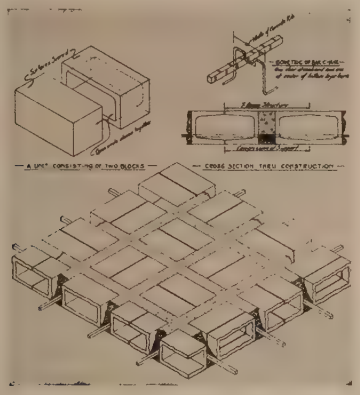
Concrete ribs separated by gypsum blocks; one-way system. (United States Gypsum Co.)

concrete. The ribs are 5 or 6 inches wide. This system is used with either a structural-steel or reinforced-concrete frame, is suitable for light or medium loads, and may be designed as a one-way or two-way system. The reinforcement consists of one or two small rods in each rib.

4. Reinforced-concrete ribs are separated by concrete blocks which form a unit 16 by 16 inches square and may,

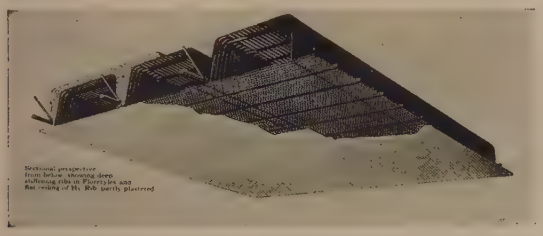
or may not, be covered by 2 to 3 inches of concrete. The ribs are 5 inches wide. This system is used with either a structural-steel or reinforced-concrete frame, is suitable for light or medium loads, and may be designed as a one-way or two-way system. The reinforcement consists of one or two small rods in each rib.

5. Reinforced-concrete ribs are separated by metal



Concrete ribs separated by slag-concrete blocks; two-way system. (Republic Fireproofing Co.)

tile, either permanent or removable. The metal tile are usually about 20 inches wide and the intervening concrete ribs from 4 to 6 inches wide are reinforced with one or two small rods. The top of the metal should be covered by 2½ to 3 inches of concrete reinforced with small rods running perpendicular to the main reinforcement of the ribs, or by expanded metal lath. This system is used with either a



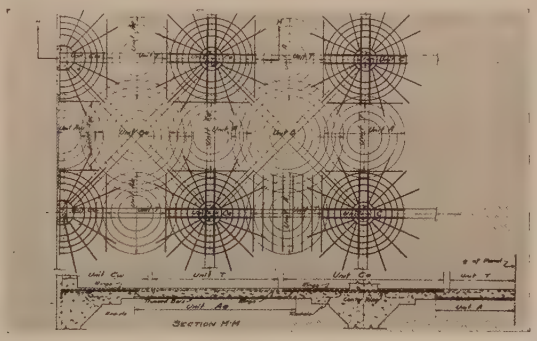
Concrete ribs separated by metal tile. (Truscon Steel Co.)

structural-steel or reinforced-concrete frame, and is suitable for light or medium loads. A two-way system is obtained by the employment of metal domes, between which the reinforcement runs in two directions.

This same system, as designed for one-way construction employing collapsible wooden forms, has been successfully used on some of our largest buildings.

Stone-concrete beam-and-slab construction.

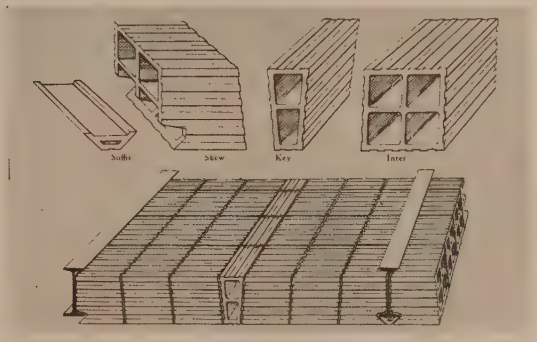
6. Stone-concrete, beam-and-slab construction, is only suitable for a reinforced-concrete frame, or for use with bearing walls, but stone-concrete slabs are often employed with structural-steel framing. A beam-and-slab system, or merely reinforced-concrete slabs, where no framing is required, may be used for all types of loading, but is usually less economical than a ribbed construction for light live loads ranging from 40 to 60 pounds per square foot. For medium loads, ranging from 75 pounds to 120 pounds per square foot, either type of system may prove the more economical. This is due to the much greater dead load of the solid slabs, as compared to those of the same effective depth constructed



Girderless floor construction. S.M.I. Circumferential System.

as ribs. For slabs of short span, however, from 8 to 12 feet, such as those over the corridors of institutional buildings and schoolhouses, a solid reinforced-concrete slab is usually the most economical choice. Concrete slabs may be reinforced in one or two directions, as conditions demand, and by either bar or fabric reinforcement.

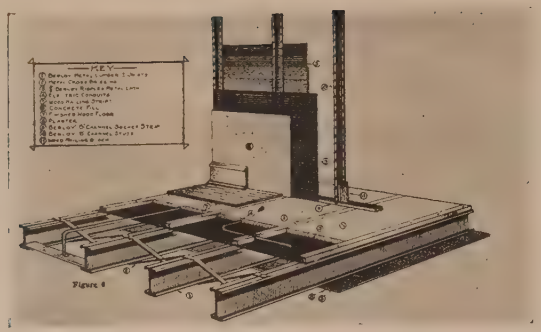
7. Girderless floor construction is only suitable for a reinforced-concrete frame. It may be designed either with or without drops over the columns and with either a two-way, four-way, circumferential, or three-way system of reinforcement. For industrial buildings, this type of floor



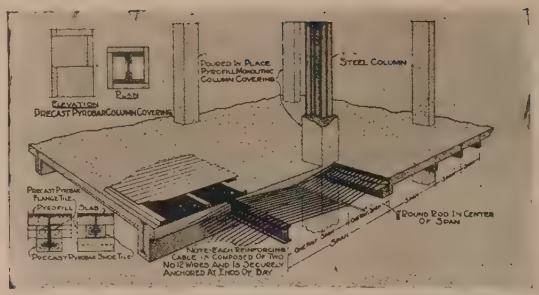
Terra-cotta flat arch. (National Fireproofing Co.)

offers the combined advantages of a relatively flat ceiling, excellent lighting facilities, and comparative economy. It is generally economical except for light or extremely heavy loads, but cannot be used to advantage except where complete continuity exists through at least three bays, approximately square and of about equal span.

8. Terra-cotta arches, of flat or segmental type, are only suitable for a structural-steel frame laid out for short spans, and are less widely used at present than formerly. They are particularly suited for heavy loads and may or may not have a surfacing of concrete.



Metal Lumber with concrete fill. (Berger Manufacturing Co.)



Poured gypsum monolithic construction. (United States Gypsum Co.)

9. Metal Lumber, used in connection with structural steel, and supporting thin concrete, or gypsum slabs reinforced with wire fabric, is suitable for light live loads. The extremely light weight of this construction results in considerable economy under conditions where it may be considered acceptable.

10. Gypsum products and similar materials, when employed in the place of stone concrete, have the advantage of a much lighter dead load. For use in short spans, with structural-steel framing, slabs 2½ or 3 inches thick, reinforced with steel wire, form a satisfactory and economical construction for roofs, or other areas, subject to only extremely light loads.

The following article will deal with the various materials employed in wall construction and a method for choosing the most satisfactory combination for any particular project.

Significance of the "Factor of Safety" in Working Stresses for Structural Timbers

THE belief that a timber with a so-called "factor of safety" of 3 or 4 will carry three or four times the load for which it is designed is erroneous and has been the cause of failures through the overloading of structures. Only a small part of the usual "factor of safety" for wood is available for taking care of overloading; most of it is required to adjust for the known variability in the strength of clear wood, the effect of defects, the moisture conditions of service, and the duration of the load.

Some of the working stresses assigned by the Forest Products Laboratory to structural timbers, when compared with laboratory test data on small, clear specimens, have an apparent "factor of safety" as high as 10, but in reality such factors make allowance for an accidental overload of only 50 per cent. A general explanation of how this "factor of safety" is taken up largely in adjusting laboratory test data to service conditions is given below.

Variations in the Strength of Clear Wood.—The strength of clear wood varies a great deal within a species. It is not uncommon to find one piece of wood twice as strong as another piece of the same species, although both pieces may be clear, straight-grained, and sound. It is evident, therefore, that part of the "factor of safety" as measured by comparison of working stresses with average strength values for a species would be used up in making the working stresses safe for the weaker timbers. If a builder could sort over his timbers and cull out those that fall below a prescribed minimum strength, he could by rejection of relatively few timbers assign his structure considerably higher working stresses without reducing his true factor of safety. The dense, strong timbers of Douglas fir and southern yellow pine, for example, can be selected by inspection, and they can be assigned stresses one-sixth higher than unclassified timbers of the same species.

Effect of Defects.—Defects have about the same effect on strength in all species; that is, a given defect in a given location in a given timber reduces the strength of the timber from the strength of clear wood by about the same percentage, whatever the species.

Moisture Conditions of Service.—Dry wood fibres are stronger than wet wood fibres. Because of the checking that accompanies drying, however, many large timbers are no stronger after drying than when green; hence the stresses permitted in the dry timbers are based on green strength values. For large timbers in damp locations the working stresses must be decreased to make allowance for some deterioration which in such timbers is not offset by any gain in strength due to the dryness of the fibres. In small high-grade timbers checking is not serious; dry 2 × 4's, for example, are actually somewhat stronger than green 2 × 4's. In order to avoid the inconvenience, however, of having two working stresses for timbers in dry locations—one for large timbers and one for small timbers—the size of defects permissible in each grade for small-dimension timbers has been increased.

Duration of Load.—Part of the "factor of safety" is necessary to make timbers safe for loads that may be left on a long time. Laboratory tests indicate that if a certain load will cause failure in a structure if it is left on for a given time, nine-tenths of that load would cause failure if left on ten times as long. If a builder could be sure that his structure would never be subjected to the design load for long periods, he could safely use higher stresses. It is for this reason that in designing for combined live, dead, and wind loads, stresses 50 per cent higher than those permissible if the load were made up of live and dead loads alone may be used, providing the resulting sections are not less than those required for the actual live and dead loads alone.

Overloading.—Part of the "factor of safety" plays the rôle of a true factor of safety; that is, it makes allowance for small accidental overloads that may be left on a structure for a short time. This factor is not designed to take care of large overloads. In good construction occasional timbers might be expected to fail immediately if they were subjected to only twice their design loads. Forty per cent of the timbers would probably fail if such loads were applied for a long time. It is evident, therefore, that timbers should not be deliberately subjected to long-time loads much greater than the design load.

Architectural Model Making as Part of the Technique of the Drafting-Room

By Ethel Bartholomew

WHILE the architect may think and perhaps write on the 4th dimension, he works, as a general thing, in two dimensions. The drafting-board is 2-dimensional; a flat surface cannot be otherwise even though, through the principles of perspective, we try to make it seem different. Some architects habitually design in perspective. Given a sufficient facility in perspective drawing, this is an excellent way to get results. But there are times and occasions when the possibility of working in the three actual dimensions greatly simplifies a matter and relieves the strain on the sometimes overworked imagination. Especially is this true in presenting a matter to a client.

Print models in an architectural exhibit.

Unless the draftsman thinks in three dimensions while he is drawing two, his work will carry the stamp of the drawing-board, even when it is built into wood and stone. One sees the stamp of the flat drawing in which it was conceived on what might be called—to use a very kindly term—the junior work of the country—in the work of men graduated from the drafting-board, or for various reasons illy prepared in the art of architecture.

Considerable mental gymnastics are required in order to transfer a large and complicated building into a sufficient number of 2-dimensional drawings to show all the details in direct elevation and section. It is more of a puzzle than the average client may be able or willing to study through, even though keenly inquisitive as to the provision made in the drawings for a solution of his problems. Familiarity helps the architect to do this readily, but for his client it may be quite a bewildering and difficult matter.

A perspective drawing of a building may be made a very beautiful picture and, within its limitations, may be worked out with great accuracy. At the same time the personal equation enters. It is very easy to avoid unfortunate details. A convenient tree, beautiful in form and well placed, often "relieves" a silhouette or obscures a bit of detail which one might wish were different. The "best point of view" is chosen almost invariably as the one from which to view the building. Even when the photo of the finished building bears out the perspective completely, it is only one of several or many possible views. The perspective drawing is an excellent way of showing a building at its best. It is hardly adequate to a complete study of a building unless a number of perspective views are taken.

Reading a blue-print, to the uninitiated, is an adventure in itself; an accomplishment not easily acquired by certain types of mind. While the architect sees the third dimension in his 2-dimensional drawings with or without the help of perspectives, it is often exceedingly difficult to produce the correct impression for his client. Many men do not read blue-prints readily and to a woman client the mystery of the blue-print often remains even after long and cogent explanations.

Herein lies the value of the model in the architect's office. Not only does it "show the client" his building, but it helps the psychology of the drafting-room, improving thereby the manner of artistic performance. It tends to hold the mind steadily to actual facts of relief and projection.

Many architects resort at times to modelling in clay in order to locate special points or to localize a set of conditions which are difficult to get with exactness from the elevations. Projections and roof lines are sometimes stubborn things to deal with when a single line must be used to represent an entire plane, as must be the case in direct elevation and in section. Direct elevation is especially misleading to the client because it is so manifestly impossible for an eye to see the way it is supposed to see in direct elevation.

Some simple way of making and using the model to try out a point in doubt is a long-felt want in the drafting-room; some way of setting up a model quickly and easily so that the angle of the roofs, the form of the gable, the grouping of the dormers may be studied from all sides.

Print models offer a solution for this problem. The working drawings contain practically all the information there is about a project. They are drawn accurately to a given scale and are the ultimate authority in the matter. When prints of the working drawings are set up in three di-

Three blue-print models.

A blue-print model.

A patio bungalow and a Dutch Colonial adaptation modelled from black-line prints, colored.

The patio bungalow and Dutch Colonial models with roofs removed.

mensions they must show the project with the utmost possible accuracy. No personal equation enters, the modeller cannot influence the result.

Blue-prints of the elevations of a building being cut and set in proper relationship to the ground-floor plan and attached lightly to the plan, profile corners of the elevations will meet at the corners of the plan and can be tipped together. When all the elevations have been so placed the building will appear in miniature, the accuracy being limited only by the accuracy of the working drawings and the care with which they are set up.

With a building simple in form such as a club house or library the elevations may be backed by sections, where they come together, showing both the exterior and the interior of the building. The floor plans are made removable and are set in place where shown on section.

No drawing of a roof, except it be a flat roof, is actually correct as to extent of surface or angle of intersection, where shown in direct elevation. Therein lies the difficulty in visualizing a roof from the usual flat drawings. In the actual, moreover, one always sees two sides of roof, dormers, or gables, and their relations change considerably from that shown in the elevations. There are some angles and intersections which can only be known by demonstrating the facts. Even though correctly drawn in elevation and section, a little application of stereotomy is necessary to get the facts.

The roof may be constructed on the blue-print paper which is to be made into the roof. If one does not want pencil lines to show on the completed roof the drawing may be made on the white side of the paper. This gives liability to error, however, because in that case the entire roof drawing must be reversed. When accurately laid out the roof may be cut on or by the drafted lines, the openings cut for the dormers, and all come together exactly. As a matter of fact, a puzzling roof can often be laid out and constructed in less time than the relationship of the parts, as shown on the elevations, can be accurately determined on the drawings. In fact, this is the way that print models came to be developed in the first place. Some complicated drawings of really very simple roofs refused to come together definitely and with precision on the elevations and sections, even though followed painstakingly from one 2-dimensional drawing to another. Finally a set of blue-prints were sacrificed and the entire simplicity of the roof demonstrated without question of doubt. Moreover, the owner was delighted with the little blue-print house.

A model that proved useful but which was not photographed on account of intrinsic difficulties to the photographer was a small club house, containing an auditorium with balcony and a mezzanine floor. Club members were puzzled as to the change in floor levels. The auditorium floor was six steps down from the corridor, with the mezzanine floor over, on the level of the balcony. The model was made from eighth-scale elevations backed by sections at the same scale. Each floor fitted into its proper place in the section, and could be removed to show the floors below, even down to the bowling-alleys in the basement. Since the model was so long and so deep it did not lend itself to satisfactory photography.

A model is useful when a garage is built under part of the house, as in the larger blue-print model photographed in the Architectural Exhibit. The model is built on the level of the garage floor, and the grade level built up on the other sides of the house, steps and retaining walls being carried out as shown on the drawings. The grounds may be extended to show terraces and even the garden, with pergolas, summer-houses, garden pool, and planting all indicated at the small scale.

A California bungalow with patio, little pergola, and garden gate is shown in one model pictured. Another photo shows this patio bungalow with the roof removed to show the floor plan of the bungalow. Photographed beside it is a Dutch Colonial house from which both the roof and second floor can be removed.

In a so-called Dutch Colonial type the second-story heights are often uncertain if not deceptive, on plan, to the uninitiated. In the model the low head room under the roof, used for closet space, is plainly demonstrated.

The little English type of house with the recessed entrance and the service gate shows how a more elaborately designed house can be modelled in blue-prints. This model, though somewhat complicated in detail, was so made that the roof could be removed. It was necessary to exercise a certain amount of care in replacing it, but the entire inside of the house is demonstrated in the model.

Modelling from blue-prints is really only a part of the technic of the drafting-room; very businesslike, but not so convincing to the client as the model in the true colors. To people unfamiliar with the general use of blue-prints the color seems unnecessary. A blue house seems as unreasonable as—a purple cow.

Black-line prints are much more satisfactory for model-making after the design has been fully developed. Black-line prints may be tinted the true colors, either with water-color or crayons, before the model is begun. The roof can be carried out so as to represent the color and, as far as may be, the texture of the actual roof material. A lawn is very easily made and can be elaborated to any extent.

Even though made of blue or black-print paper these little houses are very sturdy and will withstand a surprising amount of handling.

How Much Timber Do We Need?

THE United States leads the nations of the earth in the use of wood. We consume nearly half of the world's cut of lumber and two-fifths of all the forest products which it produces. The quantity, variety, and cheapness of our timber have led to its use in our homes, industries, and commerce to a degree that is without parallel in human history.

Ninety-eight per cent of our rural dwellings and from 59 to 98 per cent of our urban dwellings, varying in the different States, are still built of wood. From twenty-five to twenty-eight billion board feet of lumber are used annually in building and construction, the farmers being the largest consumers, and nine billion shingles are laid annually in roofing these homes and other structures. Another six billion feet of lumber are manufactured yearly into crates and boxes to carry our commerce. Our railroads normally require from one hundred to one hundred and twenty-five million wooden ties annually. Our mining industry could not live without timber, and consumes nearly three hundred million cubic feet of stulls and lagging every year. All told, we take nearly twenty-two and one-half billion cubic feet of wood from our forests annually. This is divided almost equally between timber of saw-log size and the smaller products, but is equivalent roughly to fifty-three billion board feet.

The Chestnut Blight Seems Beyond Remedy

THE sharp tang of early autumn, snow flurries, and the smell of roasted chestnuts at the street corner—an association dear to the heart of the city folk of the Northeastern States. But for the last few years there has been a difference in the chestnuts. The vendors are still there with their smoky, fragrant charcoal stoves, but the chestnuts they purvey are likely to be not the native little fellows of toothsome memory, but the big, inferior flavored "Italian" variety. Many passersby have noted the change with regret, but without knowing the explanation. Every forester knows the story only too well, says the United States Forest Service.

In 1904, in Bronx Park, New York City, an outbreak of chestnut blight was discovered. No one has yet discovered a means of stopping the blight. Since that time it has spread through southern New England, New Jersey, Pennsylvania, Maryland, Virginia, the Carolinas, and so down into Georgia. It is now threatening with a deadly certainty all chestnut timber in the Southeast. The Appalachian Forest Experiment Station, maintained by the Forest Service at Asheville, N. C., has been studying the development of the blight through the coast States.

"The chestnut blight is now found throughout the entire Southern Appalachian region," says a recent report from the station, "and is spreading much more rapidly than originally predicted by forest pathologists. Within the next ten years large amounts of chestnut will be killed by the blight. Owners of chestnut stumpage should therefore sell their timber as rapidly as suitable markets can be found for it."

Announcements

Forrest S. Rusk, architect, Columbus, Ohio, has moved to 35 East Main Street, "In Chimes Square," where he has permanent and more commodious and convenient quarters and largely increased facilities, occupying the entire second and third floors.

William R. Ward, Jr., architect, announces the removal of his office to 214 Walker Building, West Washington Street, Greenville, S. C.

Edgar Park removed his office on June 1 to the Pershing Square Building, 100 East 42d Street, New York City.

It is with profound sorrow that we announce the death of our fellow worker, good friend, and Vice-President, Murray Springer, June 2, 1926. Crosby Chicago.

Everett H. Merrill, architect, Los Angeles, Calif., formerly at 3981 West 6th Street, will in the future be located at 4475 Santa Monica Boulevard.

B. C. Bonfoey has moved his office to Suite 702 of Stovall Professional Building, corner Jackson and Morgan Streets, Tampa, Fla.

Charles Wellford Leavitt & Son, civil and landscape engineers, announce the removal of their offices to 285 Madison Avenue at 40th Street, New York City.

W. Newton Diehl, architect, formerly of 639 New Monroe Building, Norfolk, Va., and recently of Fort Lauderdale, Fla., has moved to 904 Jefferson Building, Greensboro, N. C.

Franklin M. Small desires to announce that he has removed his offices to 366 Broadway, New York.

Consolidation of the Indiana Limestone Interests

THE consolidation of the Indiana Limestone quarrying interests naturally makes the architect inquire how this consolidation will affect his work and the prospective use of this well-known and generally useful building material. The constantly improved machine methods of working this material have kept pace with the increasing labor costs to an extent that enables the product to compete closely with most manufactured substitutes for natural stone, and on this account it has become recognized as a standard material for the better-class structures of all types.

The architect is, therefore, justified in his inquiry and interest as to how the recently consummated consolidation will affect the price of the product, the service, and other elements of the industry's contact with the profession, as compared with the individual operation of various quarries and mills by competing companies in the past.

At the outset in that connection, it may be stated that the consolidation does not as a primary factor embrace any substantial portion of the cutting and fabricating plants of the country, but only such of the cutting-mills in the Indiana Limestone district as are owned by, or are more or less closely affiliated with, quarry-operating companies. The consolidation includes primarily the quarry producers, most of the twenty-four companies which it embraces being quarry-operating companies, and only a few being exclusively mill-operating concerns who do not have quarries. Therefore, there will exist a number of large cut-stone firms in the Indiana district which are not included, and these, along with the numerous cutting-plants and local stone-yards throughout the country, will continue to afford the users of the product a very healthy competition within the industry, entirely apart from the usual competition with other materials.

The principal idea back of this consolidation is one of modern business development rather than of monopoly or control, as it has so often been demonstrated that a large, well-financed, and properly managed corporation can handle the problems of efficient management and development so much more satisfactorily than a number of small operating units.

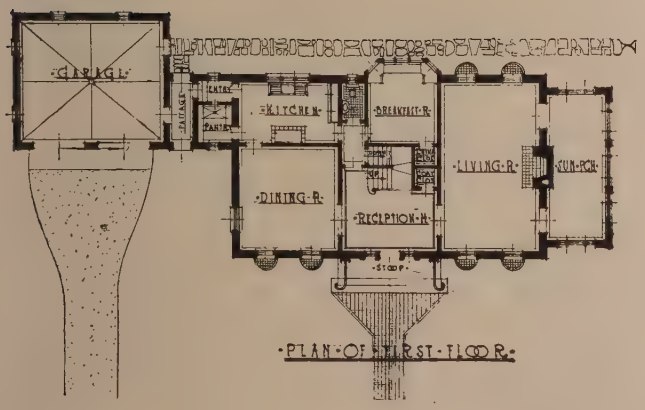
The consolidation will result in the effecting of numerous economies in production, and the reduction of overhead, from which the building public will benefit, along with the facilities it will create for the rendering of greater service to the building professions, and the development of markets for the waste by-product of the building-stone quarries.

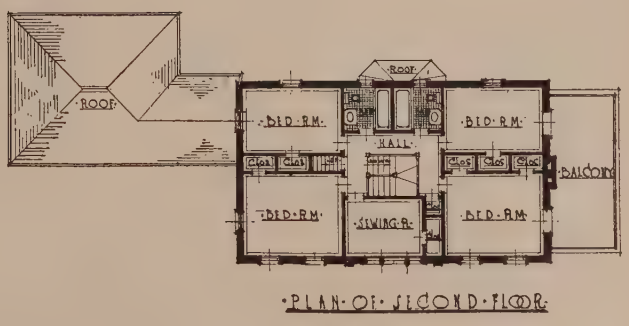
Lawrence H. Whiting, of Chicago, who was active in carrying through negotiations for the new Indiana Limestone Company, and who was supported by banking interests of Chicago, New York, and Cleveland, is chairman of the board of directors of the company.

General headquarters of the Indiana Limestone Company will be retained at Bedford, Ind., which for years has been the headquarters of the Indiana Limestone Quarrymen's Association. Executive offices will be in the Tribune Tower, Chicago.

A Correction

The Hibernia Bank Building, New Orleans, published in the July issue, should be credited to Favrot & Livaudais, Ltd., Architects; Alfred C. Bossom, Architect, Banking Room Consultant and Associate.





HOUSE, CALVIN R. ANNETT, PALISADE, N. J. Granville W. Dexter, Architect.

CONTACTS

CONTACTS presents practical ideas that are of real assistance to the business side of the professional offices. It is also the purpose of CONTACTS to bring about a better understanding and co-operation between the members of the profession and the entire building industry. You are invited to make CONTACTS a round-table for your ideas. Address CONTACTS, ARCHITECTURE, 597 Fifth Avenue, New York.

The New Architect and His Responsibilities

Spending the Client's Money—The Pre-War Status of the Profession—Co-operation Between Architects and the Industries—What Can Be Done with the Morning's Mail?

Is the Architect Still in His Pre-War Status?

By N. Max Dunning

Director of the Scientific Research Department, American Institute of Architects

I SINCERELY believe that if the architectural profession is to continue to hold its present eminent position, the architects must have a full knowledge of what is being done in other lines of industry. We cannot continue in a pre-war status and confine our activities to æsthetic questions only.

N. Max Dunning

We owe a definite responsibility to the public and can render better service if we have the close contact with other elements in the industry. I never supported anything more than co-operation and understanding between the profession and the industries.

The relationship is unique; we are all pioneers in a movement that will be accelerated as years go on; more and more we need the assistance of the manufacturers of materials who can be called in to collaborate with us.

This co-operation will be of tremendous benefit all around. The element of service must be recognized, and there is not so much interest in my mind about the sale of a material as to how it will meet the requirements of the public. In meeting the problem of balancing the standards of living by reducing costs of building, we can considerably aid in reducing the cost of living.

During the past few years there has been a tremendous improvement in the character of advertising that has been coming in to my office. Such advertising is vital because I must keep up in the latest news in the industries. If you are an architect in a small city this advertising literature is much more essential to you than if you do business in a metropolis, where you can call up on the phone and receive advice. Advertising is only one of the phases that can be better understood by the conference of architect and manufacturer. The architect is sort of a "super-salesman" for building material products, as a billion dollars or more are spent under his direction and in accordance with his specifications. The architect should know something of the processes of manufacture in order to specify properly the material.

To bring to light the work being done by the Scientific Research Department, the directors of the Institute will appoint a representative in each Chapter of the Institute, who will see that the activities of the Producer's Research Council are kept before the Chapters.

What Shall We Do with Our Morning's Mail?

By D. Knickerbacker Boyd

Consulting Architect

IT is inconceivable that the work of our profession is to fail in its needful co-operation with all elements in the building industry. To believe it, would be to accord too much influence to any group of men who, as practising architects, are thinking merely in the forms of the past and not of the virile art of architecture combined with the science of building as it exists to-day.

Such men who "feel" in terms of design and are concerned only with proportions, fenestration, and ornamentation, overlook the changes which the centuries have brought in confronting us with the curtain wall, the elevator, and interior conveniences of plumbing, heating, and ventilating, not to speak of electric-lighting, gas equipment, telephones, radios, and countless other utilities, and the necessity for weathertight roofs and cellars.

Without the assistance of the producers of materials and equipment, and of the craftsmen and workers who fabricate and install the requisites of our modern buildings, architects would be only designers, artists, or draftsmen—workers in pencil and ink on paper or cloth.

Among these "producers" the manufacturers are important factors when it comes to assisting us. We must necessarily keep a "catalogue library" of some kind, because it is our main source of information that is beneficial to us and to our clients, the public, with respect to appropriate materials and good workmanship.

True, most of the literature which we receive, unfortunately, goes over the desk into the waste-basket. We all

(CONTACTS—*Continued*)

know what it is to encounter the morning's mail, and to attempt to pluck out here and there a gem from the débris. Recently I laid aside the "waste" literature which was received by our firm of Boyd, Abel & Gugert, Architects, during a period of two days. This mail weighed, without envelopes, exactly five pounds. All this mail, which was destined for the scrap-basket, when specially analyzed, disclosed the following:

Forty-five different companies or organizations were responsible for the mail, which consisted of the following:

D. Knickerbacker Boyd

	PAGES	PIECES
Catalogues—totalling	333	7
Booklets—sales talk	48	6
Folders—in envelope	353	66
Folders—individually mailed	36	8
Letters	14	14
Return cards or envelopes	10	10
Cards—colored or printed	3	3
House-organs	20	2
Totals	817	116

This mail did not include:

1. Any letters or advertising matter retained by the firm.
2. Personal or business mail.
3. Any mail addressed to D. K. Boyd or Structural Service Bureau, whether duplicate or otherwise.

This accumulation of mail is representative of the literature coming into our office all the time. It was a most convincing example of the enormous waste due to the lack of understanding of the character of informative data desired by architects and in the use of distribution lists. It also indicates the tremendous importance of proper preparation and selection in conducting a campaign of "advertising" to architects.

Now, the question confronts us: "What shall we do with the morning's mail?" Throw it away and we may lose something very valuable to ourselves or our specification-writer; keep it and our library would be swamped. I don't pretend to go into detail in answering this question. It is one of the responsibilities of the new architect to preserve informative data, and only through consultation between architect and producer can a catalogue library be made to hold in the most compact space the essential facts which the architect needs and wants to know.

The Architect and His Client's Money

By Sullivan W. Jones

New York State Architect

AS an aftermath of the war, a new point of view has gained a remarkable hold in the building industry, finding expression in such organizations as the Producer's Research Council, the Building Congress, and in the standardization movement. Representatives from eighteen foreign countries took part in a recent international conference held here on the invitation of the American Engineering Standards Committee—a most significant event.

It is inspiring to see the steady growth of a spirit of fellowship and co-operation, the by-product of this get-together movement between architects and the other fellows in the building industry. The architect is displaying symptoms of being human.

We are deeply interested in the man who produces the materials for construction. The architectural profession is asking how the manufacturer spends his money in the effort to "sell" the architect. If he spends it wisely, efficiently, and honestly, we can not very well complain, but if he wastes it, or spends it in building a market by resort to exaggerated claims or misrepresentations, we believe we are justified in recording our objection, because, after all, it is the money of the architect's client that is being spent.

The money spent on sales is the consumer's money. When the consumer buys a brick or a bag of plaster, or a gallon of varnish, in the price he pays he makes an involuntary contribution toward defraying the cost of selling him the thing he buys, and, in addition, the cost of the effort to sell him a lot of things he does not buy. The architects are purchasing agents for a large body of consumers.

The fact that architects have a responsibility in this connection may be a new thought to many architects. Our position is a dual one. We act as the purchasing agents and the manufacturer's salesman.

To make that clear, let me relate a recent incident. Not long ago an architect I know specified the use of a certain metal moulding in connection with the electric-wiring of a job. The contractor came to the architect and proposed the use of another make of metal moulding. He stated that he had never used the moulding specified, but he had used a proposed substitute which had always given good results. He went on to say that if the architect had any doubts as to the real merit of the substitute, he might satisfy himself by consulting so-and-so, or so-and-so.

The architect, having no definite knowledge on the relative merits of the two brands of mouldings, approved the substitution. The manufacturer of the moulding had not given the architect the information he needed to sell the product to the contractor.

Hundreds of other examples could be cited where it would be greatly to every one's advantage to have a friendly relationship based on joint service in the field of building construction.

Assistance from the Industries

By H. B. Wheelock

President of the Chicago Chapter of the A. I. A.

THERE are tremendous work and possibilities ahead of the new architect, and particularly is this true since the shackles have been thrown off, and the architect has taken the producer into his "sanctum-sanctorum," and the two have discussed building materials, equipment, specifications, standards, etc. This will enable the architect to do his work better, and the architect who wishes to excel must approve of the entire movement.

The manufacturer cannot always tell how the architect intends to use the materials, and the architect does not always know how they should be used. Specifications that cover a standardization of materials do away in large part with this objection.

The work of the new architect is assisted by, and gains ideas to no small extent from, the industries.

The research data and short definite specifications as now being outlined by the Producer's Research Council, allied with the American Institute of Architects, is of very unusual value to all architects.

(CONTACTS—*Continued*)

That Spirit of Co-operation and Understanding

The Mingling of Architect, Contractor, Craftsman, Producer, and Owner—A Code of Ethics for the Architect—Assisting the Apprentice

By R. H. Shreve, of Shreve & Lamb, Architects

THE editor has chosen to call this section of the paper "Contacts," with the idea of suggesting opportunities for improving business relations and the standards under which they are carried on. Whether in banking, merchandising, real estate, or the building industry, advantage is to be gained by bringing together the essential elements of the profession, trade, or industry.

In certain phases of his work it is essential to the architect that he should meet the employer and the mechanic on a basis to understand their problems. Design, in its relation to construction and the factors who carry out the work —the architect, the mechanic, and the employer—is benefited by harmonious, effective co-operation.

In the promotion of this co-operation and the minimizing of warlike methods, the architects have been leaders. At the convention of the American Institute of Architects, held in Washington in May of this year, President Waid said:

"A great work upon which our profession should congratulate itself, and the whole building industry as well, is the closer association between mechanics and contractors. It would, in my estimation, be difficult to exaggerate the significance of the personal contact of craftsmen, builders, manufacturers of building material, and architects, all welded in the membership of one organization. Such organizations, usually known as Building Congresses, have accomplished much, and hold bright promise for the future. Their operation should be studied by Institute members of the smaller chapters, with a view not to emulate big organizations, but to do, in a smaller but equally effective way in all communities, a work of equally vital importance for craftsmanship in architecture."

These remarks of President Waid were addressed to architects, and for the moment these comments regarding "Contacts" may be similarly directed.

No organization related to the building industry offers so large a field for "Contacts" as does the Building Congress, for here every element essential to construction meets its fellows—design, construction, labor, finance, management, and all related interests.

Many of the profession realize that the New York Building Congress has a large field of opportunity in the Metropolitan district, and has accomplished a large measure of good under the direction of a number of far-seeing, hard-working, public-spirited men, prominent among them being architects whom all recognize as leaders. In the present strength and prosperity of the Congress, all recall proudly the energy and vision of R. D. Kohn, in the early days of the organization. To-day his work and the work of the Congress are recognized throughout the industry.

One of its great accomplishments is in the work of the Apprenticeship Commission, which directs the only effective organized plan in operation in the New York building industry for the systematic training and employment of apprentices. This organization owes its success very largely to the zeal and faith of Burt L. Fenner, who realized the need and the possibilities of this work, and, in turn, to the hearty support afforded him by the other elements of the industry, largely because of their faith in his leadership. His successor, as chairman of the commission, is again an architect, S. F. Voorhees, who, because of his proven strength as first president of the Congress, is assured of the support of every component group in the continuation of this work.

The Craftsmanship Awards, recognizing a superior quality of work in construction, have brought into Congress membership a large group of mechanics who will, it is hoped, interest themselves in the Congress movement, and spread and support the work and the principles of the Congress among their associates. The chairman directing this work, William O. Ludlow, is also an architect. In all of this work labor has participated because the leaders recognize in both movements an opportunity to co-operate with other elements of the building industry—an opportunity which has not previously existed in just this form.

Recalling President Waid's comments, "Whatever the architects can do for craftsmen affects also what architects can do for themselves," there arises the possibility of considering what associated interests in the industry think the architect can do for himself in his relations with them. Some years ago the Boston Congress conducted a self-searching discussion of shortcomings in which architects, owners, builders, and others indicated, each from his own angle, the points in which his fellow sinners might, by mending their ways, benefit the industry and more particularly the work of the accuser. The sins of one's neighbors (always easily discernible) were clearly set forth, and much discussion and some action followed.

Another method, possibly more of profession and promise than of accusation, was adopted by the New York Building Congress and set down as a Code of Ethics for the building industry upon the recommendation of a committee, which, it should be noted, included representatives of the architects, the builders, labor, and the real estate and financial interests. Some of the suggestions made are not new, but have been brought to our attention from time to time. The Principles of Professional Practice of the American Institute of Architects and the Canons of Ethics were the first efforts of architects to establish and maintain recognized standards, but were directed more toward influencing their relations to their clients and to one another than to the builders and the labor group. Notwithstanding these principles, owners have at times required of their architects a partisan rather than an equable administration of their work. When it is urged, indeed at times demanded, that the architect "make the builder do" this or that, it is well to recall the consensus of opinion of the Congress and the Institute, that:

"The architect's relation to his client is primarily that of professional adviser; this relation continues throughout the entire course of his service. When, however, a contract has been executed between his client and a contractor, by the terms of which the architect becomes the official interpreter of its conditions and the judge of its performance, an

(CONTACTS—*Continued*)

additional relation is created under which it is incumbent upon the architect to use his powers under the contract to insist upon its faithful performance by both parties."

Or if, on the other hand, architects are asked to consider a plan for putting before the public information as to the value of an architect's services, his competence, and the great benefit and economy to be derived from his employment, would it not be well first to make sure that the service referred to meets the test proposed by the code of the Congress:

"The architect should furnish complete plans, specifications, and details in sufficient quantity, and should not require the contractor or sub-contractor to make any part of such drawings or specifications without payment, other than the usual "shop details." Under shop details are not included general designing, such as that of steel or reinforced concrete structure.

"As the architect decides whether or not the intent of his plans and specifications is properly carried out, he should take special care to see that these drawings and specifications are complete and accurate, and he should never call upon the contractor to make good oversights or errors in them, nor attempt to shirk responsibility by indefinite clauses in the contract or specifications."

It is fair to ask to what extent advertising by the profession would be necessary if a uniform product of the character noted above were furnished. The recurring protests of a New York Board of Trade, representing one section of the building industry, would have less point if we all, as members of the profession, conducted our work in accordance with that standard.

And in these days of participation in profits from building operations in lieu of other compensation, of promotion of building projects in the hope thereby of securing work to do, of the direction of construction work by the architect to the exclusion of the builder, is there not something to be said for the standard proposed by the Institute, and restated by the Congress, that:

"The architect should not, directly or indirectly, engage in any of the building trades. If he has any financial interest in any building material or device, he should not specify or use it without the knowledge and approval of his client.

"The architect should not receive any commission or any substantial service from a contractor, or from any interested person other than his client."

No architect can pass impartial judgment on the work of men under his direction unless these standards govern his relation to his work, and no architect can fully understand that work without some contact with those by whom it is executed.

To borrow again from President Waid's remarks at the Institute Convention, in which he quoted a Fellow of the Royal Institute of British Architects:

"The architectural student of the future will spend less time in drawing, and more in the crafts and in the humanities that come through the crafts."

Might it not have been added that the student's progress will be further promoted as he mingles with his building associates and fellow workmen, and studies their relation to his work, and their point of view with regard to the standards which he maintains?

The Product Must Pass the Architect's Judgment

I AM in favor of "or equal" because the product must pass the architect's, contractor's, and owner's judgment, which, if honestly and intelligently used, should produce the following:

Architect: (*a*) An honest "or equal" product.

(*b*) A reputation for fair dealing, encouraging competition, and avoiding the suspicion of being "tied up."

Owner: (*a*) A saving in price.

(*b*) A product that has met price, service, and quality tests.

Contractor: (*a*) Effective control of building operation.

(*b*) Competitive price.

(*c*) Constructive service.

Manufacturer: (*a*) A plant that is capable of producing a product that meets price, service, and quality considerations, which should result in a perfectly balanced organization capable of viewing the product from angle of each party interested.

—CHARLES E. KRAHMER, *in charge of specifications for Guilbert & Betelle, Architects, Newark, N. J.*

"THE FUNCTIONS OF THE ARCHITECT"

This Document of the American Institute of Architects describes the duties the architect performs, the extent of the owner's knowledge of architecture, the three methods by which an architect is paid, and the basis for his selection. A copy will gladly be sent to architects for their own use or for the information of their clients.

The National Association of Building Owners and Managers has some interesting information in its compilation of expenses and incomes.

Comparison year 1925 with 1924, for 123 buildings, reporting both years.

Total rental area 123 buildings is 14,928,418 square feet.

EXPENSE ACCOUNTS:	1925 TOTAL	1924 TOTAL	1925 CHANGE
A. Operating	$8,987,063	$8,988,678	− 0.18%
B. Construction and repairs	1,724,650	1,653,499	+ 3.70%
C1. Insurance	307,742	312,902	− 1.64%
C2. Taxes	5,291,014	5,023,464	+ 5.31%
C3. Depreciation	3,247,359	3,174,270	+ 2.32%
D. Deductions and net	13,317,581	13,250,693	+ 0.53%
Total A, B, C	$19,557,828	$19,152,813	+2.11 %

Total rental area 118 buildings is 13,711,003 square feet.

INCOME ACCOUNTS:			
E1. Office rent (111)	$22,850,735	$21,579,296	+ 5.91%
E2. Store rent (111)	5,544,558	5,028,063	+ 10.25%
E3. Basement rent (111)	474,200	436,954	+ 8.43%
E4. Miscellaneous (118)	926,693	932,563	− 0.63%
Total rent (123)	30,951,490	30,261,129	+ 2.28%
	572,083	562,322	+ 1.73%
Grand total income	$31,523,573	$30,823,451	+ 2.26%
Average A, B, and C for 123 buildings per square foot is	$1.31	$1.28	+ 2.34%
Average rental income for 118 buildings per square foot is	2.26	2.20	+ 2.72%

PARIS SALON, 1925. From a drawing by Lansing C. Holden, Jr.